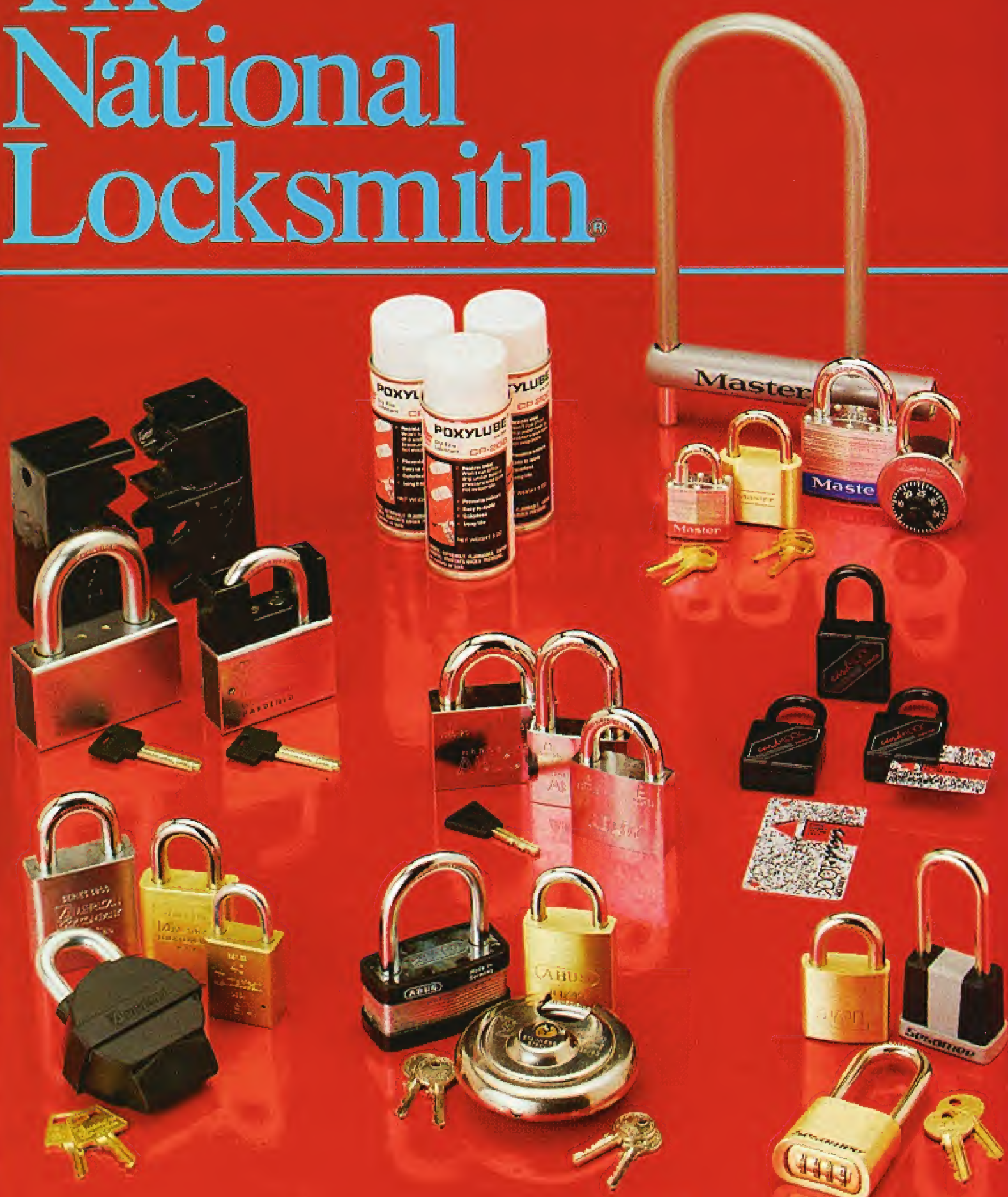


February 1991

The National Locksmith®



Padlock Edition

The National Locksmith • February 1991 • Volume 62, Number 1

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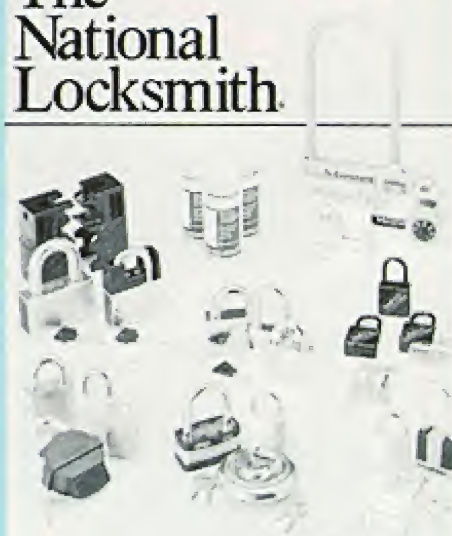
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*Click on the article
you wish to read*

The National Locksmith

February 1991



Padlock Edition

On The Cover

Our special Padlock issue features products from the following companies (in alphabetical order): Abloy Security Inc., Abus Lock Co., American Lock Company, Arkon Resources, CCL Security Products. A product review section on padlocks and padlock products begins on page 29

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Click on border to view new company or issue

Commentary

Announcing Two New Contests!

Well folks, here I sit in Chicago during the Winter Doldrums. This is the time of year when Spring is still too far off to anticipate, and the novelty of Winter has worn off ages ago. The holidays are a faint memory, and no longer does a snowfall bring out the last vestiges of the little boy in me. Plus the days seem to turn dark moments after I finish lunch. What I need is something to liven things up around here. Don't you feel the same way?

I might just have a solution to our problem. Quite some time ago, I asked you to write up and send me funny and unusual experiences which have happened to you as a locksmith. I thought I would receive a letter or two with dull stories from locksmiths who were having a slow day. Boy was I wrong!

Dozens of you wrote in with amusing and even crazy tales of life in the locksmithing trenches. There were letters telling of dogs locked in cars foiling the locksmith's best efforts. There were stories about some of the unusual and entertaining requests customer have made. Plus there were a few letters from locksmiths called to remove unusual locking devices located in strange places.

Let's try it again and see if there are any good stories left out there. Here's my challenge. Write up a letter telling me about the funniest day or situation you have encountered as a locksmith. Don't be making these stories up now, we want true ones only. In an upcoming issue, we will print the best of your stories for your fellow locksmiths to enjoy. Plus we will offer prizes to the best five letters we receive.

So be sure to share your amusing tale with your brother and sister locksmiths. Send your letter to: The Editor, Funny Story Contest, *The National Locksmith*, 1533 Burgundy Parkway, Streamwood, IL 60107. Good luck and get your letters in during the next couple of weeks!

Now if you don't have any funny stories to tell us about your life as a locksmith, isn't it a shame that we don't have a contest that *you* can enter? (Of course, we do have the Technitips contest in which you can win a key machine. But you already entered that, didn't you?!)

Anyway, here's news of a contest that *anyone* could enter. I am announcing the first annual Locksmith Photo Contest sponsored by *The National Locksmith*. There are three

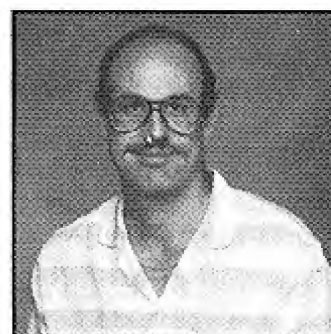
divisions: Outside view of Locksmith Shop, showing signage and window displays. Inside view of Locksmith Shop, showing counters, bench, displays, etc. And views of Locksmith Vehicles (both interior and exterior, showing signage and inside design).

You may send us color or black and white photos. *Do not write on the pictures. You may put any information you want on a label pasted to the back of the photo.* You may enter as many photos and divisions as you wish. All photos become property of *The National Locksmith* and cannot be returned. Polaroid pictures are *not* eligible. Valuable prizes will be awarded in all divisions, and winning photos will be published in an upcoming issue.

The deadline by which we must receive your entries is April 15, 1991. Send your photos and your name, shop name and address to: Editor, Photo Contest, *The National Locksmith*, 1533 Burgundy Parkway, Streamwood, IL 60107.

Last month we printed a news release from Jet Hardware Manufacturing Company about their new key blank catalog. Unfortunately, we forgot to mention that Jet has embarked upon a program to benefit the American Cancer Society.

To receive your new color catalog, please write out a check made payable to the American Cancer Society for \$1. Mail it to Jet at 800 Hinsdale St., Brooklyn, NY 11207. Your catalog will be mailed immediately, and your check will be deposited with the American Cancer Society in your name. We commend the company for their charitable gesture.



Marc Goldberg
Editor/Publisher

February 5

Letters

Comments, Suggestions and Criticisms

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length. Please address your comments, praise, or criticism to Editor, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107. All letters to the editor must be signed.

Locksmith Admonishes Car Opening Principles

Dear Marc:

After reading several articles on car openings by law enforcement agencies and towing companies, this is why a letter from myself is being put to the attention of all locksmiths.

I am currently a certified locksmith and have been employed as a locksmith for about five years. I have now decided on a career in law enforcement. During the last ten years as a full and part-time towing operator, I learned how self-centered locksmiths really are. I think that they must have an idea that police officers and towing operators are not on the same professional level as a locksmith.

Police officers and towing companies offer car openings more towards public relations than to make a dime. It seems that the locksmith feels threatened because the almighty dollar

speaks louder than the professionalism of any of the two above. I would keep this in mind for the future, next time you need public service from the police or a towing company. Will they decide that the locksmith is not professional enough to render service to?

I think that some people better understand what the word "professional" stands for.

Mike Spencer
California

Editor's Note:

Well, Mike, wouldn't you agree that with today's complicated linkages that the locksmith is the professional best qualified to open cars? Locksmiths don't want to arrest criminals or tow wrecks. Let's let each professional perform the job for which he is trained.

Tradesman Wants Policed Legislation

Dear Marc:

I am definitely opposed to legislation unless it is done on a national level only. However I do feel it should be policed on a local or state wide level. It should be regulated based on ethics and quality work as opposed to what I feel has been proposed being a form of regulatory opportunity designed

and policed as a means of creating revenue. I truly believe this country, not only locksmiths, but in many other aspects has produced revenue raising bureaucrats that do very little but to add confusion to any industry or segment of the population they try to regulate.

Roy Renderer
Florida

Reader Is Uneasy About Suspected Classmate

Dear Marc:

I would like to take this opportunity to voice my opinion on a matter concerning all locksmiths. I have given this matter a great deal of consideration. Being new to the trade, I wasn't sure I should express my view on this subject.

At my most recent certification class, I was surprised to see a man who, I understand, had pled guilty to charges against him. After telling the instructor of the class, I got the feeling there was nothing they could do. I must admit, the instructor seemed to be at a loss for words. I feel that he should have been asked to leave the class. Being certified by this company, he now has access to drill points, relocker numbers and location, and combinations that are accurately set.

Continued on page 8



[Click here for more information](#)

ASP - Your Auto Service Center for the World

Continued from page 6

It makes me quite uneasy about this product now. Although you cannot check everyone that attends these classes, I do think you should make an effort to screen out the unprofessional from the hard working professionals once the information on the individual in question has been made public. I sincerely hope that my association will shun this type of behavior. I feel the only reasonable explanation for his actions is greed. And in my opinion, we have no place for greed in this profession.

This is my personal opinion and not that of my employer or fellow employees. They must speak for themselves.

Larkin S. Alford, Jr.
Wisconsin

Locksmith Points Out Regulation Advantages

Dear Marc:

In Michigan, as with many other areas of the country, there is no regulation regarding locksmiths. A

benefit of regulation would be to help identify to the customer the difference between the professional locksmith and the self-professed "know a little bit about locks" locksmith. Furthermore, it would help the public identify locksmiths as professionals rather than as tinkers.

If we as an industry are genuinely concerned about our customers, then we will want to provide them with quality service. Locksmithing has been given a bad name many times by unknowledgeable self-professed locksmiths. The customer suffers by receiving lousy service and we suffer from the reputation created by it. Regulation could show the public that we as an industry want only professionals in this trade. Avoiding regulation because of the fear of "Big Brother" trying to turn us all into socialist slaves or the government trying to create more paper work so that it has something to do between nine and five is ridiculous. If that was true then all regulation should be abolished and I will start practicing medicine.

I support federal registration of locksmiths only if there will be federal

penalties for those who possess locksmithing tools without being registered as locksmiths. Before this registration is made law, there should be more than just a photo ID and an expense involved. If we are going to pay the bill then we should derive some benefit out of it and that benefit should be the removal of competition from the police departments and tow truck companies.

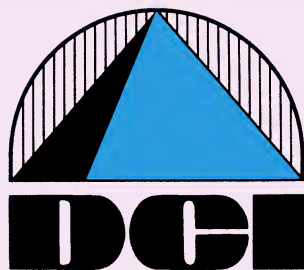
Jess Lewis
Michigan

Editor's Note: No regulation in the history of man has ever insured quality work for the public, nor has it removed the "unprofessionals" from a trade. Plus the locksmith regulation proposed on the national level has nothing whatsoever to do with either quality or professionalism.

Reader Favors U-Change Lock Cylinders

Dear Marc:

Continued on page 80



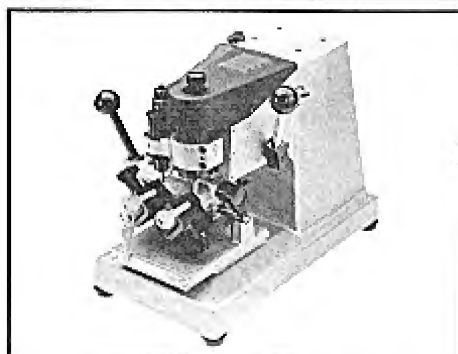
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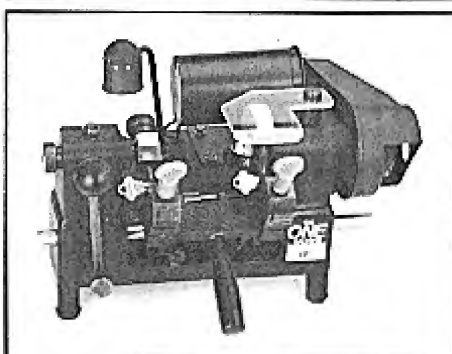
First Prize



Silca's Club Jr.

This easy to operate key duplicating machine makes the popular Laser-Sidewinder auto keys. It also duplicates various automotive and commercial high security keys.

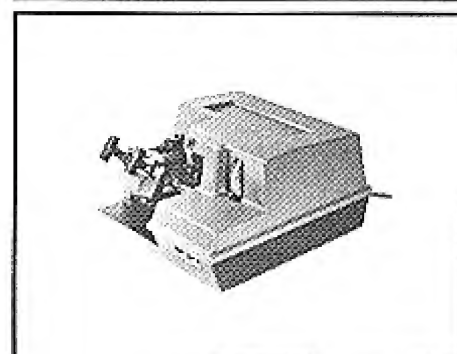
Second Prize



HPC's One Machine

The One Machine is a semi-automatic, durable and accurate duplicating machine designed to cut several hundred keys per day, effortlessly. It cuts standard cylinder keys, plus most foreign automotive keys.

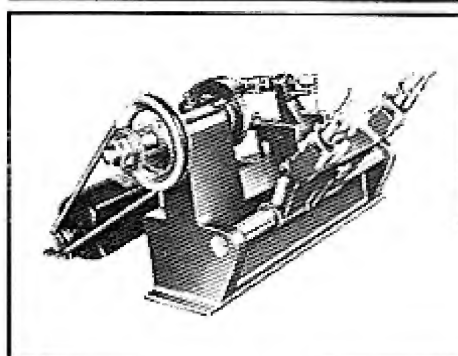
Third Prize



ESP 660

The model 660 key machine can be used for manual cutting or, with the flip of a switch, it will cut keys automatically. It is designed to accommodate large head keys such as hotel and foreign auto blanks.

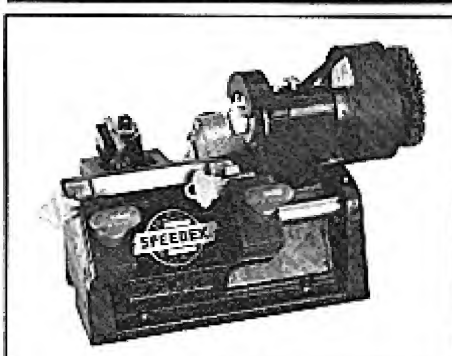
Fourth Prize



Belsaw 200

Duplicate, cut by code, cut flat steel keys. Complete machine with motor, three cutters, guides, and instructions. Built-in micrometer.

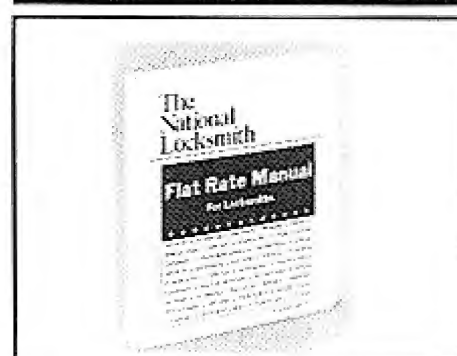
Fifth Prize



HPC 9120

HPC's newest and most compact key cutting machine features reversible jaws. Double-sided copy dog cuts flat steel and safety deposit keys and has softy brush. Excellent versatile machine.

Sixth Prize



\$100 Cash & Flat Rate Manual

\$100.00 in cash will brighten your day! So will the *Flat Rate Manual for Locksmiths*. The manual will help you price your services for profit. You won't ever have to guess how to price again.

Code Books From The National Locksmith

Seventh Prize



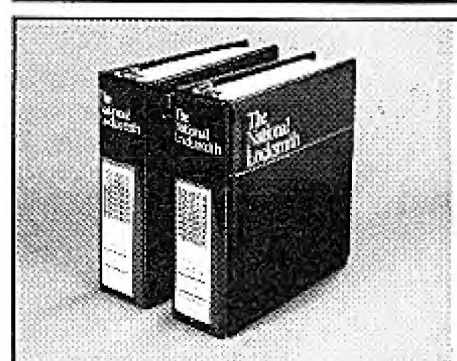
General Code Book Set (NGCB)
These three books contain 450,000 codes covering domestic lock and automobile codes.

Eighth Prize



Padlock Code Book Set (NPCB)
These three volumes offer 462,000 covering Dudley, American (Junkunc), Master and Yale.

Ninth Prize



Foreign Code Book Set (NFCB)
This two volume set holds 432,000 codes for the complete variety of foreign codes, from Alpha Romeo to Yugo.

Technitips

Helpful Hints from Fellow Locksmiths



Send me your Technitips. Who knows, you may be our next winner! c/o The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107

by Robert Sieveking

Congratulations to all those who find their Technitips printed here this month. A number of the Tips printed this month show genuine originality and ingenuity. It seems like we are happiest when we are overcoming problems and inventing solutions to the everyday dilemmas that confront us. If happiness is the act and process of overcoming adversity, then locksmiths have to be some of the happiest people on earth.

People need challenge. There needs to be something in life that pulls the talents out of the craftsman. Without challenge, there can be no accomplishment. The challenge here, is to write a Technitip that will solve a common problem experienced by others in the trade. I look forward to hearing from you. Be happy. Count your

blessings, even if they look like dilemmas. Without them you would have no opportunity to excel.

Here we are only a little bit into 1991. Make this the year you help out your fellow locksmiths by sending in at least two or three tips!

February's Best Tip

This Technitip concerns the removal and replacement of Hyundai ignition cylinder plugs. The 1986-91 Hyundai Excel ignition plug can be easily removed by depressing the plug retainer at the rear of the keyway with a specially modified "hook" pick. The plug is removed out the front of the lock case, without disassembly of the column. All wafers necessary to make a complete key are carried in the ignition plug.

Replacing the plug in the lock case can be a very frustrating experience if you do not have three hands or the small shoe horn type tool shown in illustration one. The "bolt holdback safety lever" must be

HYUNDAI TOOL, TO INSTALL LOCK PLUGS

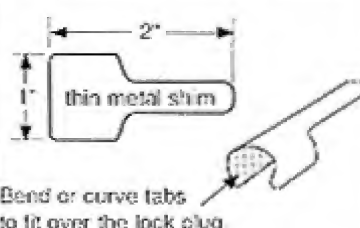


Illustration 1

helped up and out of the way as the plug is inserted and turned to lock in position, or the plug will not fully enter, seat and lock into position.

My solution is to make a curved shim from a soft drink can to hold the safety lever up as the plug is being inserted. The "shoe horn" type tool shown in illustration one is inserted into the cylinder hole, to retain the safety lever. The proper key is then inserted into the lock plug, and the plug into the cylinder. After the plug is fully seated and turned to the locked position, the shoe horn tool can be removed. Push

How To Enter

All you need to do to enter is submit a tip, covering any aspect of locksmithing to The National Locksmith. Certainly, you have a favorite way of doing things that you'd like to share with other locksmiths. Why not write it down and submit it to: Robert Sieveking, Technitips Editor, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107.

Tips submitted to other industry publications will not be eligible! So get busy and send in your tips today. You may win cash merchandise, or even one of many key machines or code book sets! At the end of the year, we choose the winners of the listed prizes.

Last year dozens of people walked off with money and prizes. Wouldn't you like to be one of the prize winners for 1991? Enter today! It's a lot easier than you think!

Every Tip Wins 'Locksmith Bucks!'

Yes, every tip published wins a prize. But remember, you must submit your tip to *The National Locksmith* exclusively. Each and every tip published in Technitips wins you \$25.00 in Locksmith Bucks! Use this spendable cash toward the purchase of any books or merchandise from *The National Locksmith*. You also receive a Bonded Locksmith bumper sticker and decal. Plus you are now eligible for the really big prizes!

Best Tip of the month prizes!

If your tip is chosen as the best tip of the month, you will win \$50.00 in cash as well as \$35.00 in Locksmith Bucks! Plus you will receive a quartz Locksmith watch, a Bonded Locksmith bumper sticker, decal, and a Locksmith Cap. Plus, you may win one of the annual prizes.

in on the lock plug to insure that the retaining wafer is engaged, then remove the key. Test the key in the ignition cylinder to insure that it is working properly.

This tool greatly simplifies installation of the Hyundai ignitions. This method is useful on other models also.

Jerry Hagan
California

The key buzzer switch on the new Chevy Corsica square column is very delicate. Great care must be exercised when removing or replacing this item to avoid breakage. To facilitate safe removal of the key buzzer switch from

its awkward location, I have fashioned a special tool. Illustration two shows the key buzzer removal tool. A 1/2" washer has been filed to form an open sided foot, that can be easily slipped under the top of the plastic key buzzer body.

CORSICA KEY BUZZER REMOVAL TOOL

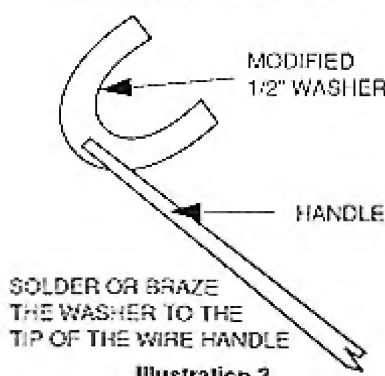


Illustration 2

The washer is then soldered to a wire handle.

In use, the tool easily maneuvers through the small hole in the Corsica column, to remove the key buzzer without undue strain on the switch or wires. The same tool is used to align the switch for proper installation. Be sure that the key is out of the ignition and that the actuator tab on the ignition lock moves freely, to avoid damage to the switch during installation.

R. Lazich
Wisconsin

This past July, I was called to a lockout at the Ramada Inn in my area. When I arrived, the manager told me that one of the guests was locked out of his room. The room was secured by a Yaletronics card operated lock, and there was no mechanical, or key bypass for this lock. Electrical contacts in the bottom of the outside escutcheon would allow the inner battery power to be bypassed in the event of battery failure, but that would not clear this particular lockout. The subject of the Technitip is the emergency opening of the Yaletronics Hotel/Motel function lock.

The outside spindle of this lock is designed to break off, much like the frangible shackle hose house padlocks. Use a pair of channel lock pliers to grip the neck of the spindle and break the outside knob off. This will allow you to push the remaining pieces of the spindle into the room and open the door by manipulating the "inner" spindle hub with a medium size flat blade screwdriver. Use only the manufacturer's suggested replacement spindle, to preserve the "emergency opening feature" of this lock.

Jan Merson
California

I was recently on a service call that required me to make a key for the ignition of a '57 Chevy BelAir. I removed the glove box lock, removed the plug from the glove box lock, and located the code number on the back of the plug. After looking up the code, getting out the Curtis clipper, and selecting the appropriate blank, I found that I was short one very important part. The GM-1 carriage for my clipper had somehow become misplaced. That left me with a code that was good, the right

Continued on page 14



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Continued from page 12

key, but no way to cut it. My Technitip is for an ingenious method of code cutting this key.

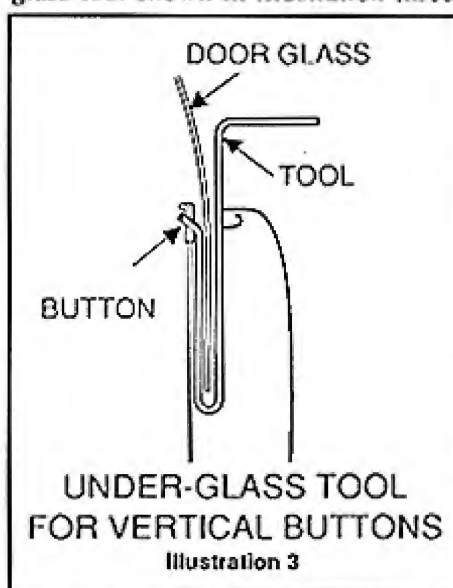
When cutting the B-10 and B-11 keys on a Curtis #15 clipper, using the GM-1 cam set, it is necessary to subtract one from each cut of the key to get the correct depths. The code was 54554, so the correct cuts for this key would be 43443. The older GM key will not fit into the GM-2 or GM-2X carriage, so what I did was cut the key on a newer GM blank. Then, by duplicating this key over a B-10 blank, the correct depths and spacing can be translated onto the correct blank and the job completed.

This tip sure saved the day for me, and I hope it helps a fellow locksmith in a similar situation.

Raymond Reding
California

This Technitip is quick to make and simple to use. Because of the new Toyota and Datsun security shielding in the doors, it has become increasingly difficult to bypass the lock, or manipulate the locking mechanism. The vertical button linkage is shielded inside the door.

This is a procedure that I've had good luck with on a number of the newer autos. The special short under glass tool shown in illustration three

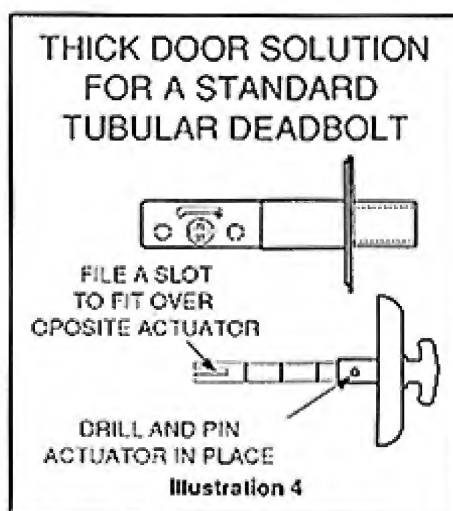


was made from heavy gauge wire, to slip under the glass and enter the passenger compartment. The tip of the tool is bent to hook the vertical button above the trim pad. The whole operation can be viewed through the side glass, making it a simple matter to raise the lock button and open the door.

Howard Borders
California

Upon arrival at a customer's location to install a single cylinder deadbolt, I found that the door was nearly three inches thick. Neither the tailpiece nor the attachment screws were long enough. This Technitip is the solution which I found to this relatively common problem.

After boring the regular holes in the door, I mortised the edge of the door and installed the bolt as usual. Holding the lock cylinder and outside housing in place on the door, I marked the tailpiece on the inside of the door so that it could be cut to length. The lock cylinder



Continued on page 16



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Continued from page 14

tailpiece was cut flush with the backside of the bolt actuator. Because the actuator was too short to reach the turn button on the inside of the door, a second tailpiece was installed into the turn button, as you see in illustration four.

Drill a small hole through the hub and actuator, as shown, to pin the actuator in place. A cotter pin or piece of soft wire is all that is needed. The new actuator was then cut to length so that it would reach through the bolt hub, and slotted so that it would fit over the actuator from the outside cylinder. When installed on the door, both actuators will be through the bolt hub. Extra long attaching screws were found to secure the lock to the door.

Larry Wright
South Carolina

I do lock work for the local Volkswagen dealer, and have added most of the Curtis VW cams and carriages to my code cutting equipment. I recently had occasion to code cut a key for a German Opel, and I found that the keyway, depth, and spacing for both these German vehicles was the same.

My tip is that the Volkswagon VW-4 cam and VW-4A carriage can be substituted for the OCB-1 Opel cam and carriage set. This tip will save you the cost of a cam and carriage set if you are ever called to cut an older Opel key (Curtis #OP-8, OP-11, or OP-19) to code. By being familiar with the keyways of some of the older German vehicles, you will find a number of older BMW's that use the same keyway, depths, and spacing.

Gerald W. Wild
Kentucky

This Technitip concerns the opening of the 1990 Pontiac Grand Am. The four door models with electric locks can be opened rather easily through the rear door. Wedge the glass and insert an "L" style tool at the rear of the glass. The tool is inserted with the "L" toward the rear of the auto. Slide the tool down into the door until it clears the bottom of the glass. Rotate the tool 90 degrees to bring the tip of the tool toward the interior of the car. Slide the tool forward until you contact the metal linkage of the electric lock solenoid (about midway on the glass). Slide the tool down the linkage to the solenoid and push "down" to unlock the door.

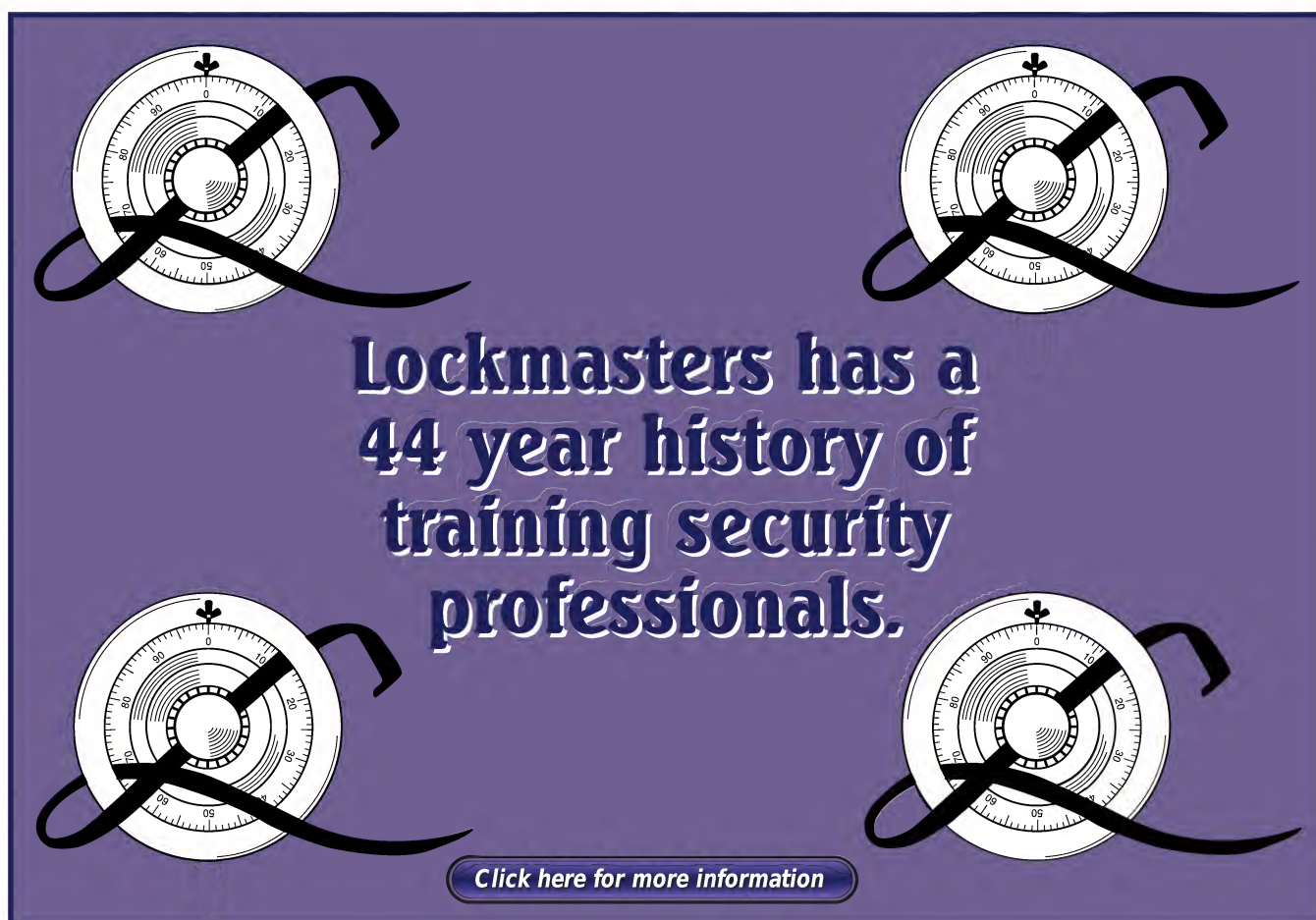
The solenoid is very easy to locate if these instructions are followed. The opening should take only a few seconds.

Lawrence Danley
Florida

This Technitip is a quick method of removing the wire style door handle retaining clips. A regular red shop towel, folded once in half, and held by the ends is passed between the handle and the door. Pulling the rag in a circular motion will dislodge the clip. Most times the clip will remain in the rag, instead of flying off as with other methods. Be sure to use a clean rag.

Rick Sullivan
Texas

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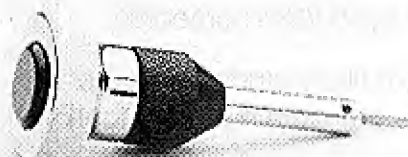
Newsmakers

New Products and Industry News

HPC Introduces Two New Tools

HPC, Inc. announces the introduction of two new tools: The Flip-It (FIT-2) and the KGB-1 holster style pick set.

When picking a lock in the wrong direction (intentionally or by error) the all new Flip-It will flip the cylinder plug past the upper pins and save you the job of repicking.



HPC's Flip-It comes with two exclusive features. The two pin Quick Lock/Release feature allows for easy release of the rotating action. The sure stop feature prevents over winding in either direction.

The Flip-It not only performs like a champ, but it makes the user look and feel like a true professional. The Flip-It carries HPC's New HQ (High Quality) five year warranty.

The second new tool release from HPC, the KGB-1 holster style pick set fits directly onto your belt and can be worn anywhere. It comes equipped with six brand new tools: 3 picks, 1 extractor and 2 tension tools. The overall length of each tool is only three inches.



All of the tools lie flat in the leather crafted case. The case is only 3-1/2" long and 2-1/4" wide, which enables it to be worn discreetly.

Circle 311 on Rapid Reply

Dom's High Security Interchangeable Core

DOM Security Locks, a Black & Decker Company, announces its new high security interchangeable core with a patented key.

This interchangeable core gives you



the flexibility to fit into the size of Best, Falcon and Arrow with a pick resistant, patented reversible key system and it can be retrofitted right on the door.

The key blank also has the world famous patented floating ball system.

Circle 312 on Rapid Reply

Williams Key Co. Since 1969

Williams Key Co., Inc. of St. Louis, MO, is a full line distributor representing more than 100 manufacturers. It was established in 1969 by Chester Williams. After he retired from Curtis Industries, it was his intention to sell key chains and key blanks to fill the time when he wasn't "fishing." By 1972, the business was so demanding that a warehouse was acquired and two salesmen hired to call on the local trade with Chet overseeing and wife, Erma, running the office.

Chet and Erma's son, David, joined the company in 1976, establishing another route and helping out in the warehouse. In August, 1979, Chet's sudden death resulted in David becoming head of the company. In 1980, a competitor in downtown St. Louis was purchased and thus began the growth of the company to its present status with 25,000 square feet of

warehouse space.

David left the company in August of 1987 to establish and run a Christian retreat located in the Ozarks of Ellington, Missouri. The current staff includes: Erma Williams, president; Pat Montrym, office manager; Mike Rachocki, general manager; and George Koester, operations manager.

A 500-page catalog is available as well as a toll-free 800 number for orders and inquiries. Their salesmen are knowledgeable and have all been locksmiths or have lock experience and are anxious to assist in any way they can.

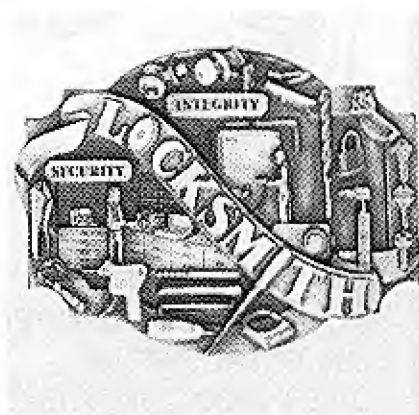
Circle 298 on Rapid Reply

American Eagle Presents Locksmith Belt Buckle

They said it couldn't be done. Too much detail; it won't be clear. That's a challenge that no locksmith can ignore, and Herb Bell, a locksmith for over 20 years is no exception.

He has seen a few belt buckles for locksmiths over the years, but none of them depicted the pride a locksmith takes in his trade. He feels his design does just that and insisted that the artists of one of the best buckle companies in the U.S.A. give it a try.

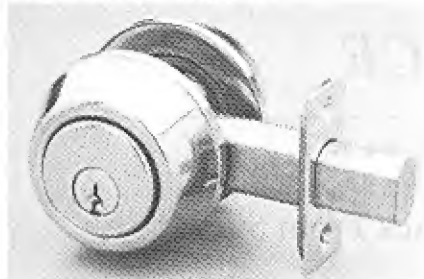
The result is a buckle with great detail, which reflects a locksmith's pride.



Circle 299 on Rapid Reply

Dexter Deadbolts Offer Solid Protection

When maximum security for homes, apartments or office buildings is required, Dexter by Master Lock deadbolts offer a solution.



Constructed of solid brass and steel, Dexter deadbolts feature a hardened steel pin that prevents cutting through the bolt. The deadbolt's 5-pin-tumbler cylinder assembly is encased in steel and protected by a slip-ring collar that guards against wrenching from the door.

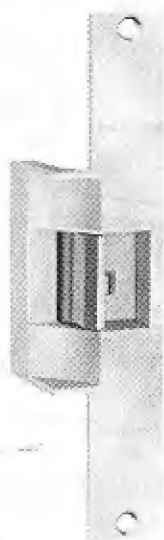
Dexter deadbolts fit any crossbore from 1-5/8" to 2-1/8", and any edgebore from 15/16" to 1".

Circle 313 on Rapid Reply

JLM Wholesale Stocks Von Duprin

JLM Wholesale is now stocking Von Duprin's new 6000 series electric strike line. Replacing the 3000 series, these new high quality products feature all stainless steel construction, continuous duty solenoids, and many new popular sizes to fit various applications.

This series will be sold to locksmiths at a suitable discount from list price making them cost effective for all applications.



Circle 314 on Rapid Reply

Aero Lock's Saturn Tryout Sets

Aero Lock announces tryout key sets for the new GM Saturn. Set TO-48 for the door locks give you a quick, clean opening when your customer has locked keys in the passenger compartment, and set TO-49 is for the trunk/hatch for when keys are lock in the rear compartment.

Set TO-50 for the door and ignition locks helps you make a key for the entire car when all the keys are lost.

(Sets TO-49 and TO-50 will enable you to make a complete key).



Circle 315 on Rapid Reply

Major
MANUFACTURING, INC.

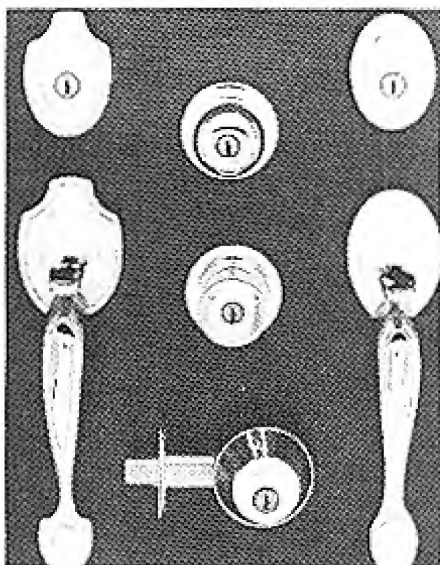
**Every Installation
Is a Self-Portrait
Of the Person Who Did It.
Autograph Your Work
with Excellence.**

[Click here for more information](#)

Weslock Adds To Delta Line

Weslock, an American Builders Hardware company, has added several new products to its Delta line of entry handles, creating an affordable lock line designed for builders as well as retailers.

The new line includes deadbolts, knobs, and entry handles with matching deadbolts in bright and antique brass finishes.

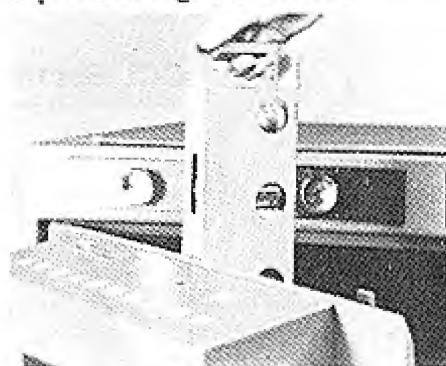


Circle 316 on Rapid Reply

McGunn's "Intelligent" Cash Dispenser

A new cash controller that allows the dispensing of small change as well as large amounts of cash without being vulnerable to armed robbery is now available from McGunn Safe Company.

Intelligent variable vending means a roll of quarters can be dispensed instantly, while a tube containing \$1,000 to cash a check or make a large payout could have a ten minute delay. To thwart employee theft and error, the code of the person requesting the cash as well as the time and amount is electronically monitored and recorded. A running inventory of cash remaining improves management control.

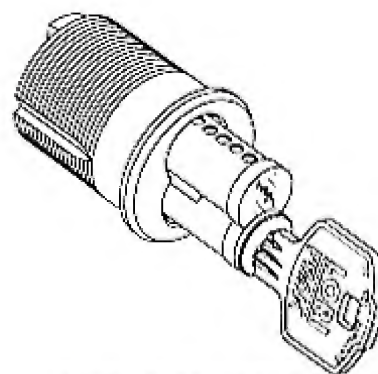


Circle 317 on Rapid Reply

Lori's Peak® Interchangeable Core

Lori Corporation is pleased to announce the Lori Peak® figure-8 interchangeable core with patented key control. This core is designed to operate in standard Best, Arrow, Falcon, KSP, etc. style 6 and 7-pin housings and, for the first time, the end user has legally enforceable control over key duplication.

The patented protrusions, or "peaks" used on Lori's Kaba high security keys are added to a brand new group of keyways which provide further protection.

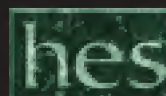
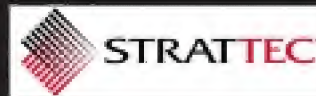


Circle 318 on Rapid Reply

medeco®
HIGH SECURITY LOCKS

**The market leader
in locking systems for security,
safety, and control.**

[Click here for more information](#)



Security By Mul-T-Lock

"The patented plug with the special 'spherotation' structure, brings the meeting point of the pins, plug and body to an almost perfectly round shape."

by Robert Sleveking

For those who did not have a chance to see the Mul-T-Lock booth, or study the "spherotation" telescopic locking principle at ALOA this past year, you probably missed a few technical ideas that you should be aware of. I'm sure we are all familiar with crowned bottom pins and the purpose of "chamfering" pins to create a more curved shear line and smoother cylinder operation.

The Mul-T-Lock patented plug, with the special "spherotation" structure, brings the meeting point of the top and bottom pins, plug and body, to an almost perfectly spherical (ball) shape, to provide a three dimensional shear

line. The smoothness of this cylinder is extremely good, considering the size of the pins that must be used to accommodate the added feature of "telescoping" security pins.

All Mul-T-Lock cylinders, regardless of the cylinder style, operate on the same time proven "standard pin tumbler principle," but the unique "pin within a pin" telescoping action adds new dimension to the pick resistance of the cylinder. By creating a second shear line, hidden within the combining pins, picking by standard tools or known principles becomes an exercise in futility. Clearances between the pins and keyway warding prevent picks from accessing the inner combining pins of

the cylinder.

How does the Mul-T-Lock pin cylinder differ from standard pin tumbler cylinders? How is the key made, to operate the "pin within a pin" arrangement? How are the padlocks constructed for ease of service? How is the lock cylinder disassembled for recombination? What padlock accessories are available to enhance the utility of this particular high security padlock?

The Mul-T-Lock high security cylinder employs a unique technology of telescoping pins to achieve its high degree of manipulation resistance. At first glance, the pins shown in illustration one seem to be like any



National Auto Lock Service, Inc. offers a wide range of equipment and services for the Automotive Locksmith. From tools and hard to find key blanks to transponder programming, we can take the mystery out of car service. We accept credit card orders, and can ship COD. Contact us for the latest in automotive technology.

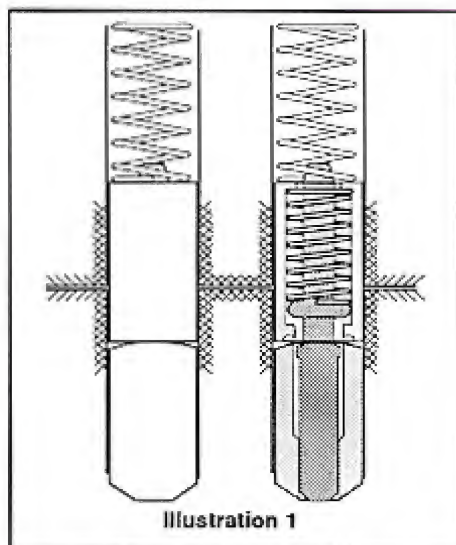


Illustration 1

other standard pin tumbler and driver combination. The cut-away view shows that a second set of combining pins is inside the first. The driver, or top pin, is in reality a driver within a driver. A separate second spring, captive within the top pin, controls the inner bottom pin.

Illustration two shows the movements of the inner pin set. There are four pin lengths for the bottom pin "shell," which is referred to, by the manufacturer as "external plug pins." They are designated A, B, C, and D. There are five pin lengths for the inner bottom pins referred to by the manufacturer as "internal plug pins." They are designated 1, 2, 3, 4, and 5. In a combining chart for Mul-T-Lock cylinders, the positions of the key for a particular system might be defined: A1-B1-B2-C3-D5. By having the shells designated by letters, and the inner pins designated by numbers, the system is easily understood and pinning can be accomplished with very little confusion.

The drivers and pins supplied with the standard pinning kit are as you see in the illustration. With the pins and

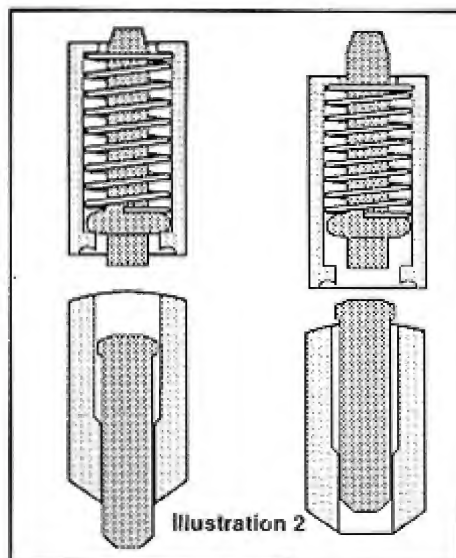
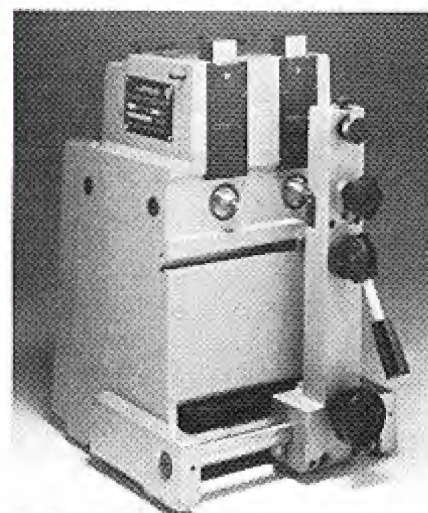


Illustration 2

master wafers supplied with the basic combining kit, each position can be combined to one of 43 different "acceptable" combinations. The keying instruction manual illustrates all acceptable keying possibilities. The standard pins are nickel silver as are the keys. Stainless steel mushroom style pins are also available, for more demanding conditions or higher security requirements. A hardened steel pin, at the front of the lock plug, acts to deter drilling attempts, if the stainless pins are not used.

Keys for the Mul-T-Lock system are not duplicated, they are originated. All keys are cut "to dimension" using the very specialized key machine shown in photograph three. The design of the key, and required accuracy and shape of the cuts, prevents duplication on "tracer" style key duplication equipment. To maintain tight key control, the keys have been specifically designed to make unauthorized manufacturer of blanks or working keys extremely difficult.



3. Specialized key machine for Mul-T-Lock key origination.

Illustration four shows three possible cut combinations in the tip of a Mul-T-Lock key. Each cut position is made up of two separate milling operations. A "hollow drill" style cutter makes the pin seat for the "shell," and a single point flat bottom dimple style cutter makes the second cut, for the inner pin. You

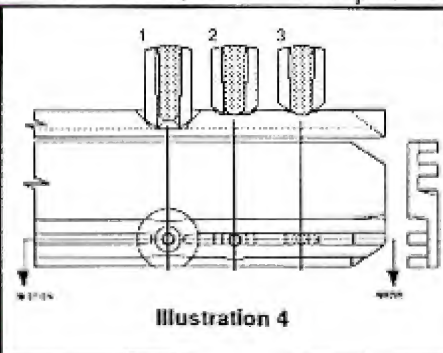


Illustration 4

will note that for this reason, the key machine shown in photograph three has two spindles and two cutters.

The first pin in illustration four shows a center cut "shallower" than the shell cut. The second pin shows both cuts at the same depth, and the third pin illustrates the center cut deeper than the shell cut. There are no maximum adjacent cut restrictions. Valid pin combinations of internal and external pins are as follow: A1, B1, B2, B3, C2, C3, C4, D3, D4, D5.

The keys are double-sided, and reversible. This is a convenience key, and not a true double-sided configuration. The manual suggests a specific application for the double-sided feature. The plastic key head has a raised button on one side, intended to identify the top and bottom of the key. In a multi-unit housing complex, one side of the key could be cut to accommodate all "common doors and gates," and the second side of the key could be cut to operate the tenants locks only. This makes a nice one key/two key application.

There are many keyways in the Mul-T-Lock system, but they are divided into two major groups by the handing of the keyways. If you hold a key in your hand, with the blade pointing away from you, you will note, as in illustration five, that the grooves will be on the right or left of the key blade. If the grooves are on the right side of the key, you have a right hand key. If the grooves are on the left side of the key, you have a left hand key.

All of the padlocks in the Mul-T-Lock line are constructed in the same manner. Removable shackle padlocks are also available. Disassembly could

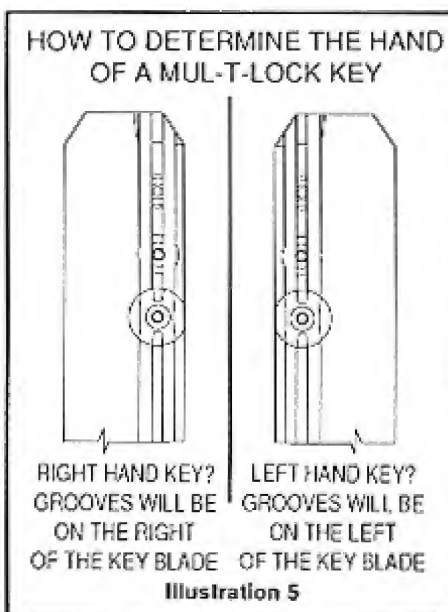


Illustration 5

Continued on page 80

Abloy Disklock 3545 Padlock

The Abloy Disklock 3545 padlock (1" shackle) and 3546 padlock (2" shackle) are chromed, brass bodied padlocks with hardened 5/16" diameter shackles. The padlocks can be field serviced, including shackle replacement, into any new or existing Abloy Disklock door hardware lock systems without the need of a special padlock; only service kits, parts, or keys.

The outstanding feature of the locks is their ability to withstand severe environmental conditions.

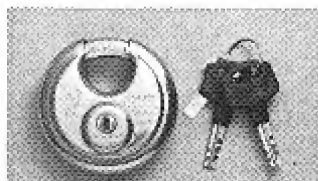


Circle 282 on Rapid Reply

Diskus Padlock By Abus

Abus introduces the 20/70 Diskus with a pick-resistant disc cylinder to its product line. The round configuration hinders attacks by force. There are no flat surfaces to allow straight-on battering. The shackle retracts into the lock body and the Diskus design allows no space to jimmy.

The Diskus is laser-welded, providing a strength factor making the difference between a solid lock and imitations.



Circle 283 on Rapid Reply

Almont Lock Co.'s 'Re-Key' Padlock

The Re-Key Padlock from Almont Lock Company is so named because it can be re-keyed quickly and easily. A simple tool retains all drivers and springs which permits plug removal with tumblers exposed for instant rekeying.

The Re-Key saves time and work because there's no need for drilling, riveting or grinding.

The key cannot be removed when the padlock is open. Two solid balls are forced into the sides of the shackle when locked. Seven keyways are available.



Circle 284 on Rapid Reply

American Lock Adds Weatherbuilt

American Lock Company introduces "Weatherbuilt Plus" model 90THC.

Built for maximum outdoor security in harsh weather or environmental conditions, this new product features American's 1-3/4" wide body padlock and a cover made of acid, oil and gas resistant Shell Kratron® material for added protection against dirt, road grime, water and freezing. A 2" hitch hasp completes the Weatherbuilt Plus package for security protection on unattended trailers.

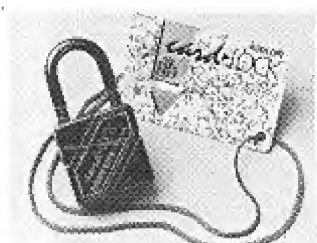


Circle 285 on Rapid Reply

Arkon Resources Plastic Key Lock

Card Lock™, new from Arkon Resources, is an innovative padlock that utilizes a credit card-size plastic Card Key in place of a traditional metal key.

Anyone who has owned a standard padlock knows that metal keys are easy to lose, and lock combinations are just as easy to forget. Card Lock, however, avoids these pitfalls with its ingenious Card Key which can be conveniently carried in a wallet or pocket. Simply insert the Card Key into the Card Lock, and the lock is opened.



Circle 286 on Rapid Reply

Baton Lock's Steel Shackles

Baton Lock and Hardware Company announces stainless steel shackles for the 761 padlock line available in keyed alike or keyed different. Keyed different are carded and sealed for retail.

The shackles have a solid polished brass body with stainless springs and 5 pin mushrooms.



Circle 287 on Rapid Reply

CCL "Sesamee" Keyless Padlocks

CCL Security Products offers a complete versatile line of keyless security padlocks. The Sesamee series features up to 10,000 possible combinations which can be easily set and reset.

Sesamee padlocks are manufactured with solid brass internal mechanisms and solid brass or durable black epoxy finished pressure cast bodies. The hardened steel or solid brass shackles have clearance of 11/16", 3/4", or 2-1/4".



Circle 288 on Rapid Reply

Falcon Lock's Deadlocking Lock

Falcon lock introduces its No. 255 DL Deadlocking Type padlock manufactured from solid bar stock brass, with chrome plated case-hardened steel shackles.

The entire cylinder assembly is removable for easier keying or quick cylinder change, while the key is removable in the locked position only.

Padlocks with longer shackles (2" or 6") are available when specified.



Circle 289 on Rapid Reply

Hampton's New Waterproof Lock

The Hampton Lock Company originally introduced its line of waterproof locks for marine application only.

Because of the varied outdoor applications the WP40 and the WP40TLS have become one of the fastest turning products in the Hampton line.

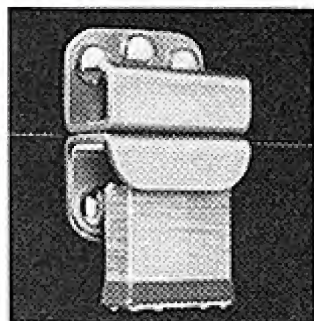
The waterproof series features plastic-covered, case-hardened stainless steel shackles with precision "O" ring seals, nickel-plated brass pin tumblers, a special double locking device and the incredible laminated "bullet-proof" steel construction.

Hartwell Corp.'s Shackle Shield

The Shack'I Shield © from Hartwell Corporation adds the SS250 Series anti-bolt cutter hasp.

Made of hardened plate steel, the SS250 Series hasp is especially designed to accept heavy duty removable core padlocks such as the American 700, Master 29 and Sargent and Greenleaf.

Since padlock shackles vary in length, the hasp comes with an adaptor system that allows the installer to minimize the gap between the frame and the door section.



Circle 291 on Rapid Reply

Kryptonite's Cable and Padlock

Kryptonite's cable locks for bicycles and motorcycles, made of high tensile steel aircraft cable, are hard to cut with boltcutters or hacksaws. Self-coiling for easy storage, they are vinyl covered to protect painted surfaces and flexible enough to make awkward lock-up situations easy.

The Kryptonite cable and padlock, 5/16" (8mm) in diameter and 6' long, weighs 1.2 lbs. (.56 kg) and is available in black.

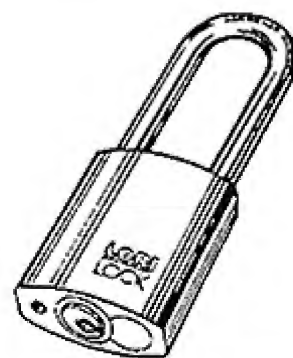


Circle 292 on Rapid Reply

Lori Corporation's 1411 Padlock

Lori Corporation's 1411 series of removable cylinder padlocks are available, with the most popular keyways including Kaba Gemini high security.

Included with each padlock is a short tailpiece to use with Lori's standard 1590 cylinder, although the lock can be ordered less the cylinder. Also, original Schlage and Arrow key-in-knob cylinders can be used, only after shortening their tailpieces.

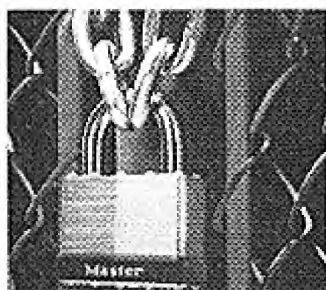


Circle 293 on Rapid Reply

Master's Heavy Duty Padlocks

Provide maximum protection for storage sheds, gate latches, truck doors, industrial equipment and other valuable property, with extra-high-security Master Lock padlock Nos. 15 and 17.

Master Lock's heavy-duty No. 15 is the lock featured in the famous "tough under fire" rifle shot test on TV. Both the No. 15 and the No. 17 padlocks have precision-engineered, five-pin-tumbler cylinders, affording thousands of possible key changes.



Circle 294 on Rapid Reply

Papaiz Tetra-Key Padlock System

The Tetra-Key padlock system, designed and developed by Papaiz, is a maximum security padlock with a special cylinder in the form of a cross, and four line pins in each row. This advanced mechanism allows for variations of more than 342 million key codes.

Papaiz, a pioneer in non-ferrous metal technology, is one of the few companies with the resources, technology and expertise necessary to create such high tolerance padlock components from non-ferrous metals.



Circle 295 on Rapid Reply

Sandstrom's New Padlock Protection

Poxylube CP-200 dry film lubricant from Sandstrom Products, keeps key-operated padlocks performing trouble-free, while protecting the inner workings for easier key entry and smoother operation with no film or run off.

Poxylube CP-200 stands up to extreme heat and cold, while not evaporating or attracting dust and dirt. It also prevents the build-up of corrosive agents.



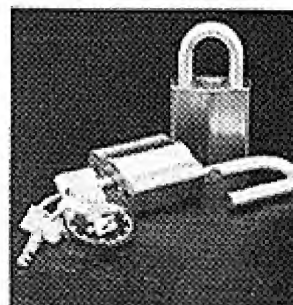
Circle 296 on Rapid Reply

S & G's Outdoor Padlock

Sargent & Greenleaf introduces its environmental padlock, designed to resist both physical attack and harsh environment.

The padlock has no springs or pins that can stick, rust or fail in adverse environmental situations. It has a disk and spacer design using rotating action for opening.

A complete two year warranty comes with the padlock.

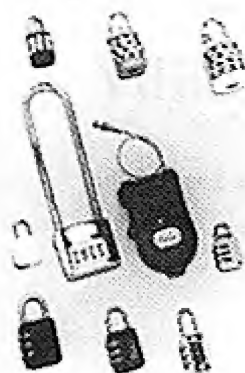


Circle 297 on Rapid Reply

Sinox Offers New Padlocks

A 15 combination padlock with a patented resettable mechanism is offered by Sinox.

Padlocks are available in a variety of sizes, shapes and finishes. They are stylishly fashioned with unconventional functional design.



Circle 400 on Rapid Reply

Henry Squire's Recodable Padlock

A heavy-duty combination padlock from Britain is particularly simple to recode. The Squire Mystic Re-Coder cannot be picked and can withstand a shackle pull of 2800 lbf making it suitable for protecting building and equipment.

The padlock has four wheels, each number 1 to 8, offering 4096 different combinations, which can be reset quickly. The number can be changed regularly as a routine security precaution.



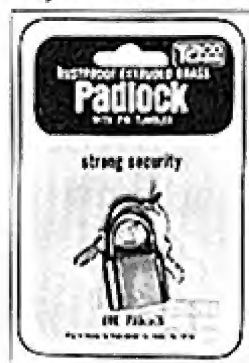
Circle 401 on Rapid Reply

TACO Offers Carded Padlocks

Trans-Atlantic Company (TACO) has available their CD100 series carded padlock. These padlocks have a solid brass case, brass pin tumblers and a hardened shackle.

The CD 100 is available either keyed alike or keyed differently in sizes 3/4" to 2" and are offered at low prices to meet keen competition.

TACO offers these padlocks and other high quality commercial and residential grade builders, security and shelf hardware.



Circle 300 on Rapid Reply

Abloy Disklock 3585 Padlock

The Abloy Disklock 3585 padlock (1" shackle) and 3586 Padlock (2" shackle) are chromed, hardened, solid steel bodied padlocks with hardened 7/16" diameter shackles. Field serviceable, including shackle replacement, into any new or existing Abloy Disklock door hardware lock systems without the need of special service kits or keys.

The padlocks' shackle cut strength is over 7000 pounds and a pull strength of more than 9000 pounds.



Circle 301 Rapid Reply

Abus Granit Rekeyable Padlock

The Abus Granit 36/55 top security class rekeyable padlock is constructed of solid hardened steel and is sheathed in durable black vinyl. Both lock body and extra strong double bolted shackle are made of a superior strength, hardened-to-the-core steel alloy.

The full black vinyl sheath provides excellent protection to the chrome plate body while enhancing the overall appearance.



Circle 302 on Rapid Reply

American's Weatherbuilt Line

American Lock Company introduces "Weatherbuilt Plus" Model 70WCC.

Built for maximum outdoor security in harsh weather or environmental conditions, this new product features a 1-1/2" wide body padlock and a cover made of acid, oil and gas resistant Shell Kratron® material for added protection against dirt, road grime, water and freezing.

Model 70WCC is ideal for securing boats, sheds, gates, trailers and trucks.

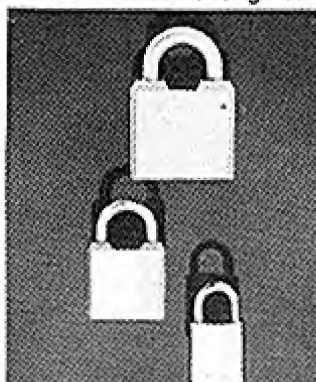


Circle 303 on Rapid Reply

Assa Padlocks Expand Systems

Three grades of Assa padlocks are designed to expand the application of masterkey systems, including the ability to re-key.

The Nos. 3 and 5 padlocks have case-hardened steel bodies, shackles and ball-locking mechanisms. The No. 2 padlock is available with either key-retaining or non-key-retaining cylinders, and has standard and extended shackle lengths.

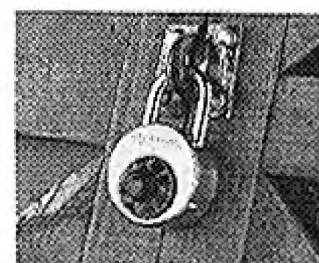


Circle 304 on Rapid Reply

Master's High Security Locks

Specially designed to secure employee lockers, storage area doors, gate entrances, truck doors and other industrial application, the 2000 Series combination padlocks from Master Lock offer the stronger combination lock.

The 2000 Series more than doubles conventional combination lock security, based on pull, wedge and shear test, and the patented three-steel-ball deadbolt locking mechanism secures the shackle against prying, and guards against shimming or rapping.



Circle 305 on Rapid Reply

American Lock Padlocks

"From the development of the Model 2000 and shrouded shackle Model 747, American Lock has offered maximum security padlocks since 1912."s

For over 78 years, American Lock Company has been a manufacturer of high quality padlocks for the security industry. In fact, one famous contribution to the entire security industry is the double steel ball locking mechanism, which is recommended by the National Crime Prevention Institute.

From the development of its solid steel flagship model 2000 and shrouded shackle model 747, American Lock has offered maximum security padlocks to the professional locksmith since 1912.

Throughout the years, because of its progressive involvement in the industry and constant monitoring of current market trends, American Lock has added innovative products and packaging to its product line. The Multi Cylinder System, built to upgrade existing interchangeable cylinder

padlocks; the 20 and 40 Series solid brass padlock series; a Safety Lock-Out System providing color coded aluminum body padlocks for easy identification for OSHA standards, and most recently, Weatherbuilt Plus, a complete padlock and accessory program for maximum outdoor security.

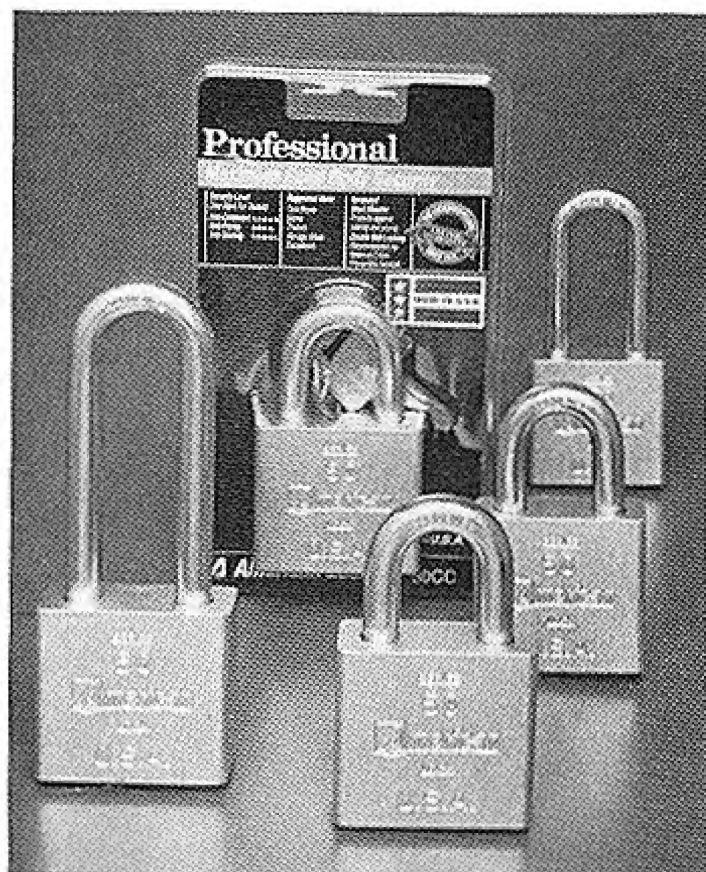
To complete the total package, American Lock offers several display boards that invite customers to inspect and compare padlocks or hasps for proper application. Displays feature the "Professional Series," "Hasp Series," "Color Coded Security" (Safety Lock-Out), and "Performance Series" padlock categories. The displays can be wall or pegboard mounted. "Mini" display boards (half the size of the standard 12" x 24" boards), featuring the "Interchangeable Core," "Tubular

Series," "Multi Cylinder," and "Weatherbuilt Plus" product categories complement the entire merchandising program.

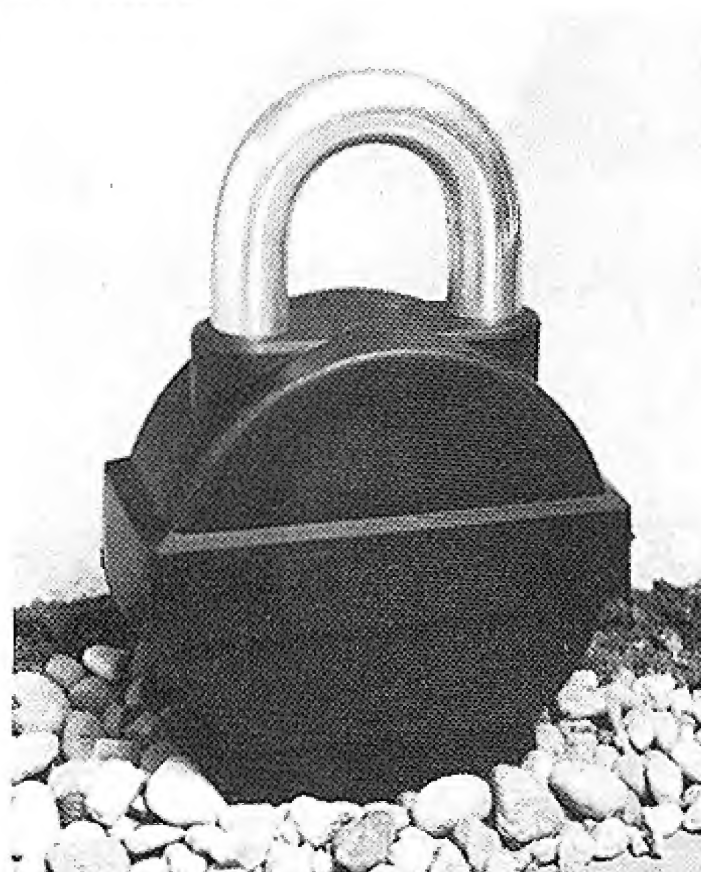
For added visual impact, the "American Padlocks" neon sign was created for easy display in either a window or on a wall.

American Lock has prided itself on being a leading manufacturer dedicated solely to padlocks and the largest producer of solid body padlocks in the U.S. Whenever a need is identified, American Lock's experts apply their technical knowledge to its solution. The company intends to continue its growth into the 1990's.

For more information contact: American Lock Co., 3400 W. Exchange Rd., Crete, IL 60417, (708) 534-2000.



American Lock Company's Series 50 locks.



The Weatherbuilt Plus Model 702WC.

Servicing The 1991 Escort

"A change has occurred in the locking systems on the 1991 Ford Escort. However, you'll be happy to note that making a key just might be easier."



Send your car opening questions to: Shirl Schamp, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107.

by Shirl Schamp

It's amazing. I decide that my world is calming down to an acceptable pace and then someone opens the flood gates. They make a change on an automobile and, of course, no one tells me. Wouldn't you think that the least the engineers in Detroit could do would be to check with me first? No way. They don't even know that I exist. But locksmiths must think Detroit immediately fills me in on all the dirt. The first time anyone encounters a change in a lock they ring my phone begging for information.

A change has occurred in the locking systems on the 1991 Ford Escort (which incidentally is also in the 1991 Mercury Tracer). The funny thing is that there has been a change, but you may think the problem is greater than what the actual change has turned out to be. If you're meticulous in your work which you should always be, the job of originating a key for these cars has become easier.

The blanks and the codes remain the same as the other Ford cars using the 10 position key that was originally introduced in the middle of the 1984 model year on the Ford Thunderbirds. Before you panic about a change, examine all avenues of approach. Disassemble the lock to examine its nature. This lock has very crucial tolerances, in fact the maximum adjacent cut on the 1984 1/2 Ford can be no more than two levels. (A one cut can adjoin nothing greater than a three cut without affecting its own base.)

Sometimes a wrong cutting wheel can affect the angle of slope, possibly affecting adjacent cut. I have found that is not always an easy key to duplicate

because of this situation. When I originate a key and the customer also wants a duplicate it is often easier to code cut both keys rather than to duplicate one of them. That, of course, depends on your method of cutting. (It wouldn't apply if you do code work on depth keys.)

Also you should take an extra ounce of care if you're using a hand clipper. I understand from a number of those who use the clippers that there is a great tendency for the key to slip. We use the HPC 1200 CM with great success.

Some locksmiths have told me of making all the cuts except the tenth one. Then they have progressed the tenth position down through its possibilities and the key would not work. This would have to be caused by a lack of meticulousness, like a bad cut on one of the earlier portions.

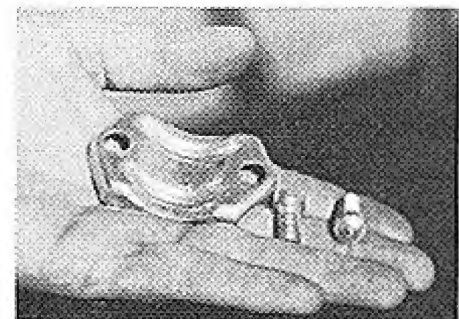
An exception would be if the ignition lock has been replaced and is not matched to the doors. All rules then become invalid. You'll have a different ball game, probably requiring drilling of the ignition. This shouldn't be an issue this early in the game. We're dealing with 1991 models!

Ignition lock. All right, let's get started. My editor, Marc Goldberg, agreed we should examine the problem thoroughly, and sent me a set of these locks to disassemble and see what the differences are. In the ignition itself the wafers and their placement are the same as in the earlier 10 position locks. The manner in which the lock is housed is different.

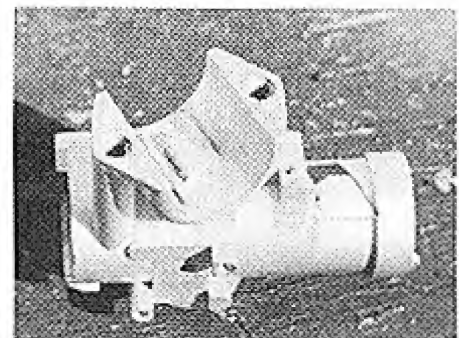
In fact in the past many locksmiths have opted to drill the ignition and replace it. With the new structure of the housing, the only thing that drilling would achieve is to allow you to turn it on and off with a screwdriver! On the earlier models, this provided a solution to removing the lock so that it could be replaced, however, with the new structure you would still have to back off the shear bolts and remove the roll

pins in order to replace the lock. It doesn't matter if the lock was drilled or not. Thus the act of drilling becomes an exercise in futility, since you still have to remove this unit and the roll pins before removing the cylinder. This is how to do it:

First drop the column itself. This is done by removing the bolts and securing it to the dash. The column will then drop exposing the shear head bolts that secure the ignition housing to the column. (See photographs 1 and 2.)



1. Shear bolts used to...



2. ...secure the ignition housing to the column.

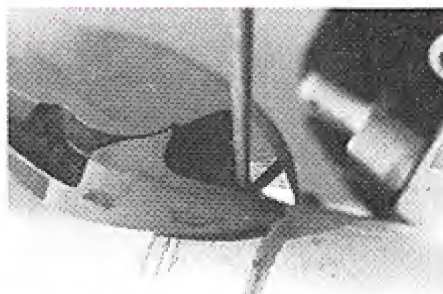
You will notice in the vicinity, just behind the face of the lock, two roll pins. (You can see their location in photograph three.) The removal of the roll pins can be achieved easily by inserting the tip of a round file, tapped lightly, into the roll-pin (see photograph 4) and then lifting with the application of diagonals. (See photograph 5.) You can see in photograph six that the pin removes cleanly. Photograph seven

Continued on page 39

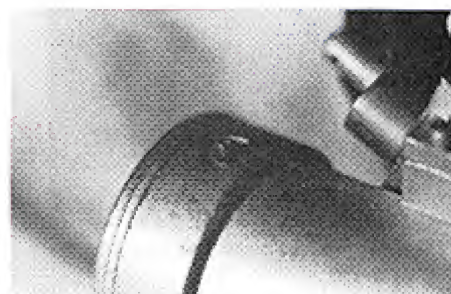
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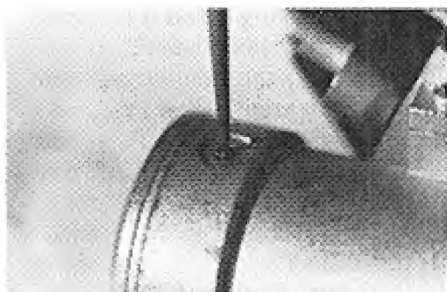
3. Note the location of the roll pins.



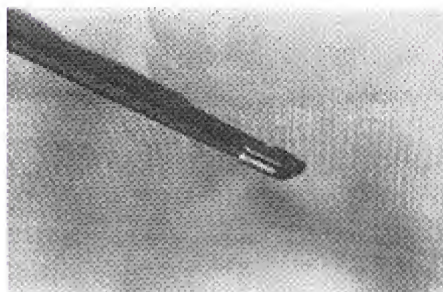
5. Lifting the roll pins with diagonals.



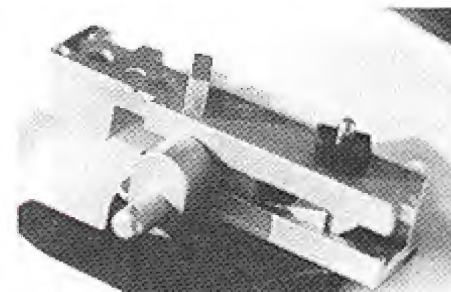
7. A halfway removed roll pin.



4. Inserting a round file into the roll pin.



6. The pin, cleanly removed.



8. The key retaining actuator.

shows a roll pin removed halfway, I feel this is a better method in this particular situation than drilling beside the pin and prying it out.

To remove the cylinder itself you must first remove the key retaining actuator which is the button that allows the key to come back to off the

position. (See photograph 8.) This will clear the passageway for the lock to slide out. Slide the unit out of the housing with care. There is a spring on the bottom just behind the face and a rocker arm just behind it, which is held in with a small pin, both of which can easily be lost. (See photograph 9.)

Now that you have the lock unit itself, you'll want to remove the plug from the lock. On the rear of the lock

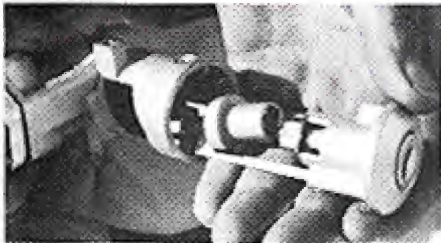
you'll see a "C" clip, remove it. (See photograph 10.) Beneath the clip there are two spacer rings to remove. Now you can slide the cylinder out of the lock. (See photograph 11.) Photographs 12, 13, and 14 show all parts that you should now have on your bench.

Remember that the only reason for removing the lock is to replace it or repair it as in the case of a malfunctioning lock.



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9. Take care not to lose the spring and rocker arm.



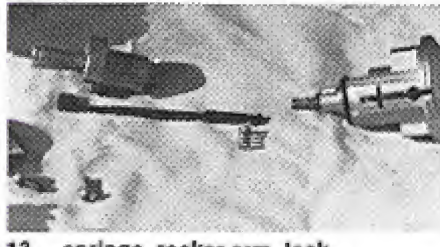
10. "C" clip found on the rear of the lock.



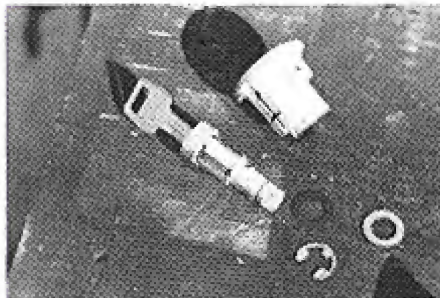
11. Sliding the cylinder out of the lock.



12. Ignition housing,...



13. ...springs, rocker arm, lock...



14. ...and cylinder with "C" clip and spacer rings.

The door and hatchback locks:
The hatchback lock appears to be nothing more than a third door lock. These three locks (the doors and the trunk) are *not* constructed in the same manner as the earlier ones. The tumblers are positioned different and they have incorporated a *trap*. We'll cover that next, but for now let's continue with the positioning.

In the earlier locks, the doors used the first six of the ten possible positions and the ignitions used the last six of the ten positions making 5 and 6 common to both locks. (See illustration 15.)

In these locks the first, second and third positions aren't even used, and position 4 is exclusive to the doors and hatchback locks. Positions 5, 6, 7, 8, and 9 are common to all of the locks. Position 10 is exclusive to the ignition. (See illustration 16.)

Even though they're using the ten position keys and the existing codes this system is in fact, really nothing more than a seven position key. Positions 1, 2, and 3 have absolutely no value.

The Trap: Now I'll explain to you just what the trap is, so that you'll understand why I suggest removing a lock and disassembling it to make a key. The structure of the wafers in the

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Continued from page 40

lock is designed so that if you were to impression the key, you would come to the shear line, but not necessarily the one that is needed to operate the ignition. What they have done is, made the number five wafer smaller than the diameter of the plug, allowing it to meet the top shear line when cut to a number four cut, and meet the bottom shear line when cut to a number five cut.

Now I know what you are going to say. When you get to a number four, if it doesn't work then just progress to a number five. This is logical except, they have a number four wafer that is a true number four. Not knowing which is a true or false number four, you could just as easily lose it by lowering a true number four as you could gain it by lowering a false four. Also remember these combinations of fours and fives can be in multiples. Another thing that has been incorporated is the use of a wafer stamped number five as a four, which means that although it's a number five, it doesn't necessarily mean that it should be moved away from the number four level.

The method that I suggest is the removal of a door or hatchback panel. The hatchback appears to be the easier of the two to remove. Remove the panel, get yourself a lock, and take it to either your truck or workbench. Don't be fooled by the window in the side of the housing that allows you to view the wafers. (See photograph 17.) This view in the window would allow you to line the wafers up with the top of the shear line, allowing the lock to function, but not necessarily the ignition lock. You could have accomplished this by impressing it. The only way to view the bottom shear line would be to remove the cap.

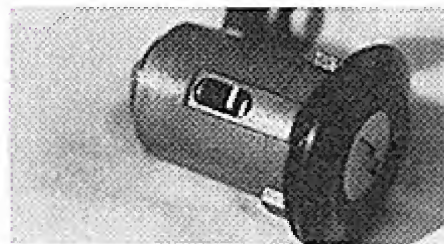
My method is as follows: After removing the lock from the door or the hatchback, remove the tailpiece from the back of the lock, which is secured by a "C" ring. Next remove the faceplate by peeling its edges. Carefully remove the faceplate not allowing the springs of the dust cover to explode. At this point the plug can be slid out of the housing simply by pushing on the back of the plug. Again, I want to state that to visually cut to a shear line, even at this point, wouldn't tell you if you were at the correct shear line. Look at photograph 18 and notice positions 1 and 6. They do not necessarily correspond to the other wafers. But if

Blank	Bow										Tip
Positions	1	2	3	4	5	6	7	8	9	10	
Ignition					■	■	■	■	■	■	
Door	■	■	■	■	■	■					

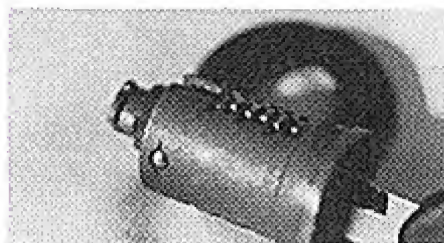
Illustration 15: Standard 10-wafer Ford product locking system.

Blank	Bow										Tip
Positions	1	2	3	4	5	6	7	8	9	10	
Ignition					■	■	■	■	■	■	
Door				■	■	■	■	■	■		
Hatch				■	■	■	■	■	■		

Illustration 16: 1991 Ford Escort & Mercury Tracer



17. Window for wafer viewing.



18. Positions 1 and 6 don't match others.



19. Numbers are stamped on the wafers.

you remove the wafers, you will see a number stamped on the wafer. (See photograph 19.)

After examining the numbering system we can determine that a wafer stamped #1, is a true #1, #2 is a true #2, #3 is a true #3, #4 is a true #4, and #5 can be used either as a #4 or a #5. I suggest at this point that you first cut exactly what you read on the wafer. In

the first position, should a #5 wafer be used, it would not be important whether it was cut a #4 or a #5, since that position is exclusive only to the door and hatchback locks.

Positions 5, 6, 7, 8, and 9 are what you are concerned with. If there are no #5's in those positions, cut to the numbers and simply progress the 10th position, using depths of one through five. If in those positions you only have one wafer that is a #5, cut what you see and progress, if it doesn't work, cut that position at a #4, then try again.

The only minor problem would be if within that group of five, there were two or more wafers stamped #5. In this case you could play with the concept of progression. For example, if there were two, use: 44, 45, 55, then on another blank 54.

For those of you who are well-versed in the earlier 10 position system, you could, if there were multiples to deal with, direct yourself to the 5 and 6 position, then after determining those positions, use the method you have been using in the past.

Even though this system sounds complicated, once you understand it, you'll realize that it is easier to make a key this way, than with your earlier method, and you'll also be able to easily see why you would not accomplish anything by drilling the ignition lock.

May all of your major problems be as simple as this one. §

Alarmed Exit Device Installation

"The engineers at Alarm Lock have incorporated a time delay with the introduction of Model 715 and Model 265. There is a fifteen second delay."



Send your lock and key questions to Jack Roberts, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107.

by Jack Roberts

Exit devices which sound an alarm when activated have, in the past few years become a rather standard installation for all types of industrial and commercial properties. Fire and building codes require emergency egress from all areas, yet many of these areas are not protected against unauthorized exit in non-emergency situations. A rear door exit from a storeroom or warehouse, equipped with

a standard pushbar type of exit device, may meet all code requirements but offers little protection for the business owner against interior theft by employees or others.

Alarmed devices have been available for many years, and have undergone many changes and modifications to upgrade the degree of security which is offered. A device which sounds an alarm when the door to which it is attached, is designed to alert management that the door has been opened.

Many alarmed exit devices are self-contained units powered by a six or nine volt battery which provides a continuous sound from the internal horn(s) until the unit is reset or until the

battery is depleted. A thief with an armload of goods can be well on the way by the time the cause of the alarm is determined.

Alarmed exit devices, and in many cases the doors to which they are attached, are well marked with a notice that an alarm will sound when the door is opened. This notification in itself could well be a deterrent to unauthorized egress by a person inclined to be dishonest. The more experienced thief or knowledgeable employee, however, knows that there is plenty of time to get out and away before the alarm is tended.

Timed delays of various configurations have been developed

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Continued from page 46

which allow the alarm to sound for a preset amount of time before a latch or bolt is retracted. This delay must, of course, be within the limits allowed by code, and the cause of the alarm must be investigated by management or a responsible employee within that same time frame if a possible theft is to be detected.

The engineers at Alarm Lock Systems, Inc. have successfully incorporated a time delay in the proven design of the Model 700 and Model 250 alarmed exit devices with the introduction of the Model 715 and Model 265 "Time Out" 15 second delay devices. These also include the capability of adding peripherals such as a Closed Circuit Television (CCTV) camera, remote monitoring console, secondary alarm, etc.

The major difference between the Model 265 and Model 715 is the bar and channel activator on the Model 265. For the purposes of this article we will refer to the Model 715 only since the lock mechanism, service and installation is the same on both models (with the exception of the installation of the end cap bracket for the bar and channel of 715).

The operating features of the 715 are the same as the 700 and 710 which offer a heavy duty deadbolt together with a positive relocking deadlatch. The "Time Out" delay feature of the 715 prevents the latch from being retracted for 15 seconds after the exit bar is pushed.

This 15 second delay is accomplished by an electromagnet installed behind the latch as shown in illustration one. The control rod of the electromagnet prevents the movement of the latch (retraction) until the delay is activated. During this "Time-Out" period the dual horns sound their alarm and continue to do so until the unit is reset manually with the proper key. A two minute Auto Alarm Shut Down mode may be selected if desired by management. Activation of this mode will be described later in this article.

When the 715 is connected to an approved fire alarm or fire sprinkler system the 15 second "Time-Out" is deactivated permitting immediate alarmed exit in the event of an actual emergency. This feature meets the requirements of the NFPA 101 Life Safety Code, and, with added peripherals will meet almost any requirement of management. The 715 is

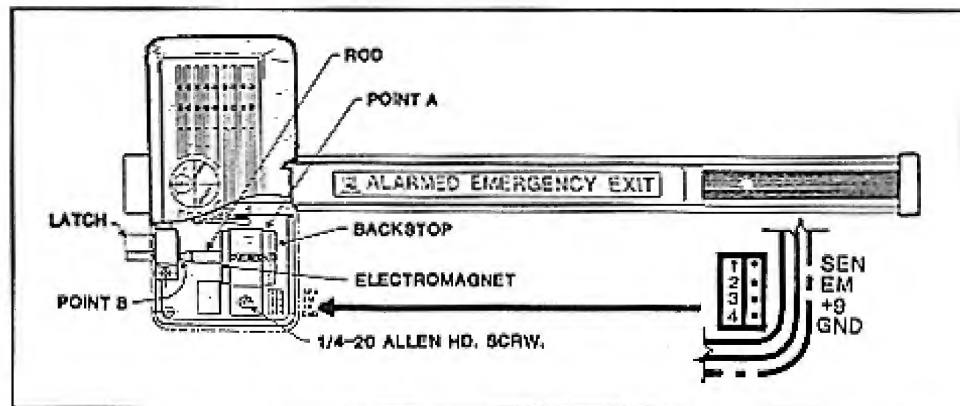


Illustration 1: Alarmed Emergency Exit

designed to be a Fail-Safe unit. The latch is not restricted by the electromagnet control rod in the event of power failure.

A 9 volt back up battery, however, will power the alarm when the push bar is activated. The battery will provide up to 200 alarm sequences or typically up to 7 hours constant alarm and should provide up to one year standby service. Serving a dual purpose, the standby battery provides power for a "beep" signal when testing the unit and also alerts with a beep every 60 seconds when battery power is low.

So much for what happens when the 715 is on the door and all systems are "go." Let's prep this rascal and get it ready for installation. Since nothing is easy for me, I am always a bit skeptical when I see the terms, "easy" to install, "easy" to assemble, easy this, easy that, and the 715 instructions very plainly say, "easy to install" and "easy four wire hook-up."

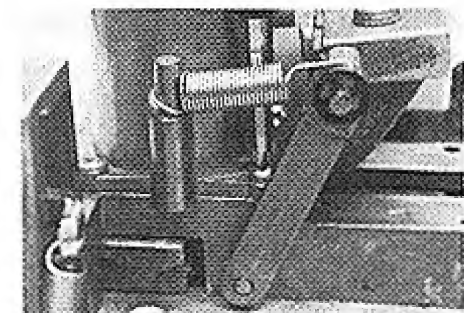
OK, lets see just how easily it really is. Always read and study the installation instructions first. Yeah, I know, most of us just go ahead and install first and read later, but things go so much better if we would just read first, and the follow the instructions.

We prefer to do as much prep as possible on any lock or locking device on the shop work bench prior to going to the job site and this policy holds true with the 715. It is often much easier to do some of these things in the shop and it also gives one the opportunity to check that all parts are functional and that all of the necessary nuts, bolts and screws have been packaged with the unit.

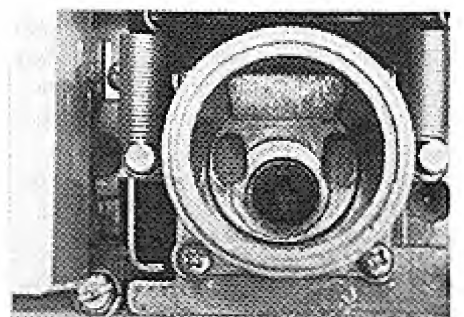
With the lock unit on the bench, remove the lock cover by simply lifting it off the base plate. (The 715 is shipped without the lock cover screws installed.) This allows access to all of the inner workings of the 715. (See photograph 2.) (Note that the

electromagnet, latch control rod and stand-by battery have been removed for clarity.)

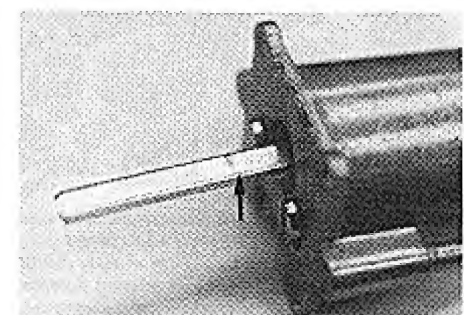
Remove the four screws holding the cylinder housing to the bolt cover. (See photograph 3.) Insert the required rim cylinder in the housing and mark the tail piece 3/8 inch from the back of the housing. (See photograph 4.) Cut the tail piece at this point.



2. The 715 is shipped without the lock cover screws installed.



3. Four screws hold the cylinder housing to the bolt core.



4. Mark the tailpiece 3/8 inch from housing back.

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Install the rim cylinder in the housing with the keyway in a horizontal position. (See photograph 5.) Note that the clapper arm springs do not have to be removed from the housing for cylinder installation although it is much easier to remove the springs and have the housing firmly in hand. Depending on the type of rim cylinder and associated mounting screws, it may be necessary to remove a bit of material from the screw slots on the housing. We had to do this and it was much easier to do it in the shop than on the job site. Another advantage of doing as much prep as possible beforehand.

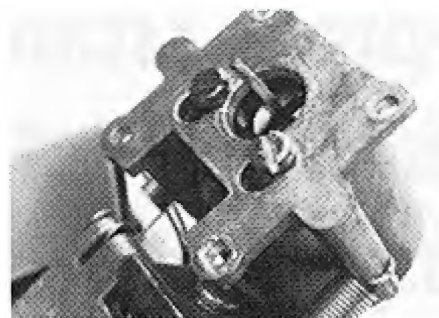
Reinstall the cylinder housing with the four screws (see photograph 6), and check for proper operation of the deadbolt by locking and unlocking with the key. Make sure that the standby battery is connected to the terminal strip before testing the cylinder and bolt operation.

A beep will be heard from the horns each time the bolt is retracted by using the key. This feature serves as an alert that the unit has been deactivated. With a full understanding of the installation instructions and as much shop prep done as possible it is time to go to the job site.

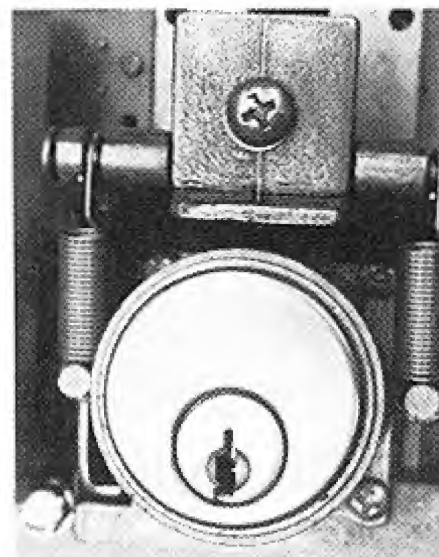
The center line of the Alarm Lock unit should be 38 inches from the finished floor. Measure and mark this point and tape the template into position of the face of the door. Center punch the desired hole locations, one in each of the four corners for the lock mounting plate and one in the center if an outside cylinder is to be installed. (See photograph 7.)

Two additional holes must be marked and drilled if an AL 707 door pull is to be used. A wiring access hole must be provided if the unit is to be installed on a hollow core door. These are indicated on the template. Drill all holes as noted on the template; (Number 22 drill bit for the corner mounting holes; 1-1/4" for an outside rim cylinder; 3/8" for the wiring loop, etc.)

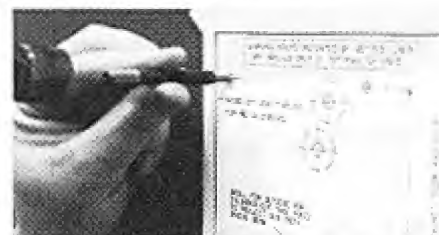
If an outside cylinder and/or pull are to be installed, this is the time to do it. Insert the cylinder and mark the tailpiece to extend 3/8" past the inside face of the door. Cut the tailpiece at this point and install the rim cylinder with the keyway in a horizontal position towards the opening edge of the door. Install the selected pull or handle. Select a suitable wall location on the hinge



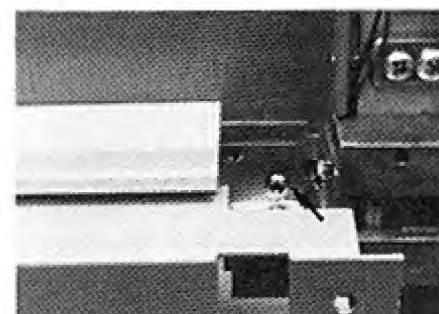
5. Rim cylinder installed with the keyway horizontal.



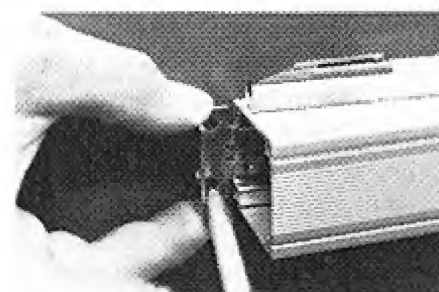
6. Cylinder housing reinstalled



7. Center punching through properly positioned template.



8. Push bar channel slides onto the bar.



9. Use end bar as drill marking template.

side of the door opening for installation of the Control Box Timer Module. (A 110VAC outlet must be provided at this point.)

Remove the cover and mount the Control Box on the wall by whatever method is necessary, plastic anchors, toggle bolts, etc. Drill a 3/8" hole near the hinge side of the door and route the Armored Door Loop through the door to the hole drilled at point "X" on the template. Bring the lock body to the door and route the end of the door loop through the access hole in the base of the lock body, attach the lock body to the door with screws at the four corners of the base plate.

Do not tighten these corner screws at this point. Firm, but not tight. Slide the channel of the push bar onto the bar retaining clip which is mounted on the side of the lock body. (See photograph 8.) (Note here that if the push bar is too long, it may be shortened by cutting the channel and channel insert with a hacksaw. Another job that could have been done in the shop prep.) Level the push bar and place the end bracket into position on the end of the bar. Use the end bracket as a template. (See photograph 9.) Mark and drill number 22 holes and attach the end bracket with the screws provided. Remove the 10-32 screw from the clapper arm hinge bracket and, using this same screw, attach the end of the push bar arm. Tighten securely. Now firmly tighten the four corner mounting screws of the lock body.

With the door open, check for proper operation of the unit by throwing the bolt with the key inserted into the cylinder and retract the bolt by pushing on the bar. If you don't particularly care for an ear splitting 95 decibel screech, leave the battery disconnected while testing the physical operation of the lock.

Next, with the cover and roller bar removed from the keeper (strike) locate the center line of the lock on the door jamb and using the paper template, or by using the keeper as a template. Locate, center punch and drill two number 22 holes for the elongated holes in the keeper.

Mount the keeper to the door jamb using two screws in elongated holes. Tighten firmly but not securely so that the keeper may be moved if necessary. Replace the roller bar and the cover plate. Close the door, extend the bolt, and align the keeper as required.

Again check for proper operation of

Continued on page 53

Tamperproof Security Screws...

The Tamperproof Screw Co. offers a variety of 18-8 stainless steel tamper-resistant screws for security purposes. These screws, with the exception of One-Way Screws, require special matching screwdrivers for insertion and removal. One-way Screws are inserted with a standard slotted screwdriver, but are designed so that the standard driver skips out when removal is attempted. Though one-way removal tools are now offered, they are frequently difficult to use and are not recommended. One-Way Screws are suggested for permanent installations only.

As a general rule, security screws are modifications of standard drives which render the screw difficult to remove without a matching tool. The most common form of modification involves the insertion of a pin in the center of the standard drive punch. These "pin-head" security screws then require tools which have a drilled center hole to allow for this pin. Torx ® Screws, Hex Socket Screws, and Phillips Screws are all available from Tamperproof as a pin-head security screw.

The company is a prime manufacturer of Spanner Screws,

another style of tamper-resistant fastener. Their trademarked "Snake Eyes ®" screws consist of two holes drilled into the head of the screw. Drive is accomplished with the matching 2-pronged tools.

The last style of tamper-resistant screw offered is the Tri-Wing ®, a modification of the standard Phillips drive. But whereas the Phillips has a cross recess, the Tri-Wing ® has a "Y"-like configuration, similar to the Mercedes Benz insignia.

All security screws are manufactured to the same specifications as standard screws. Yet each style has its own advantages and disadvantages.

One-Ways, as mentioned, are easily inserted and do not require any additional tools. They are the most economical, but are not recommended if future removal is anticipated. Many municipalities specify One-Way Screws on window frames and guards. Sheet Metal Screws in sizes 10 and 12 are widely used in these applications.

Though all security screws must be regarded solely as a deterrent, some are more tamper-resistant than others. Tri-Wings ® are another economical fastener and are easily removed with

the matching tool. But Tri-Wings ® are regarded as the least tamper-resistant of the styles offered. They should be used only when minimal security is required. Remember, however, that any determined perpetrator can remove any fastener.

The "Snake Eyes ®" Spanners are moderately priced and available in a full range of sizes and head styles. Though some installers find their matching installation driver tips too fragile, they are versatile and widely used in a variety of security applications. The 12-24 x 1/2 Flat Head Spanners are frequently used in door hinges. Tamperproof stocks this size in a silicon bronze, in addition to their standard stainless.

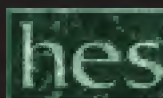
The Pin-Head styles: Torx ®, Hex Socket, or Phillips security screws are certainly the most secure. They are easy to install and can handle more torque than the Spanners. But Pin-Heads are also the most costly, and all sizes and styles are not readily available. A full catalog is available to locksmiths.

For more information contact: Tamperproof Screw Co. Inc., 30 Laurel Street, Hicksville, NY 11801. (516) 931-1616, Fax (516) 931-1654. §



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Manipulating Sentry Safes

"Sentry Safes are everywhere. They turn up in the most unexpected areas. A new style is just great for manipulators."



by Dale Libby

In this article, I will discuss some manipulating tips on Sentry Safes, how they are now shipped so as not to lose their combinations, and we'll go over the new "Quick-Change" feature on recent Sentry Safes.

Sentry safes are everywhere. They turn up in the most unexpected areas. These safes serve both business and home environments. Chances are you will receive calls to service some of

these fire and media safes, even if you are not specializing in safe work.

This particular brand of safes has always been innovative in their simplicity of design and their price. Because of the relatively low cost of these fire and media safes, and their presence in office supply stores and other large chain operations, they will always require servicing and combination changing.

Photograph one shows a new style of Sentry safe, the 6380 Series. This safe has the standard type handle, so it will be the classic direct drive type of safe that is great for manipulation. This classic design of direct drive has been around for many years with little modification. It is a workable design.



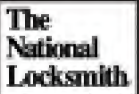
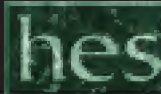
1. Outside of a Sentry 6380 direct drive.

One of the problems with some safes is that when they are shipped, the combination will be lost or mislaid. To keep this from happening by accident, Sentry has incorporated a holding screw on the back of the door. Photograph two



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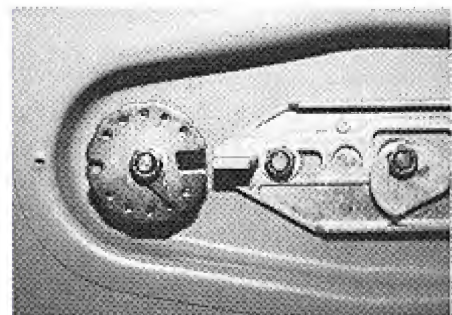
show the screw holding some directions. When the screw is in, it fits into a slot on the drive wheel and holds that wheel immovable so the combination cannot be scrambled.



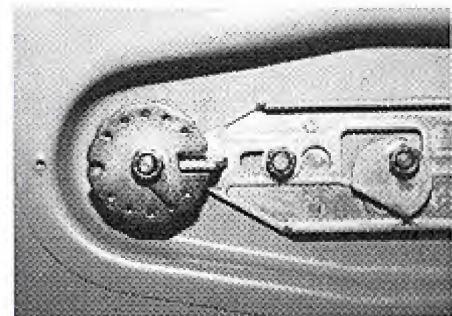
2. Cam removed, note drive wheel holes.

The directions on the card state: "To activate combination lock remove and discard the screw holding this card. Operate the combination shown on the other side of this card several times before closing and locking the safe." When the screw is removed, the safe combination dial will be able to be turned.

In photographs three and four, the wheels have been turned to the proper opening position and the bolt handle will move the locking bar in and out of the wheel pack. The outside edge of the drive wheel is notched around the circumference of the wheel to give false gate readings to the novice manipulator.



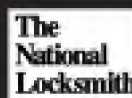
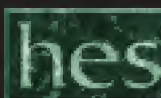
3. Drive wheel with fake cutouts.



4. Stationary fence in the opening gates.

Photograph five is the little fooler. A couple of times, when manipulating these newer safe wheel packs, I unwittingly used the screw notch and

Continued on page 58

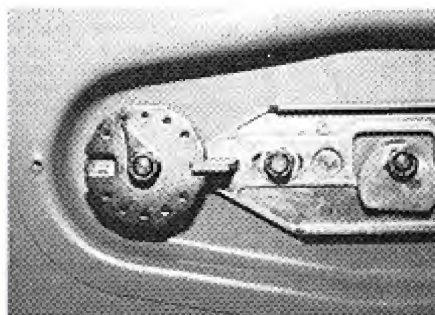


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Continued from page 56

not the true wheel gate to manipulate a safe. This notch gave adequate readings to realize the gates on wheel one and two. However, when I turned the handle to open the safe, it would not go far enough to let the safe open. Once I realized what was really happening, I just added 50 numbers to the last or drive wheel, and the safe opened. Usually, the true gate is wider and deeper than the false gates.

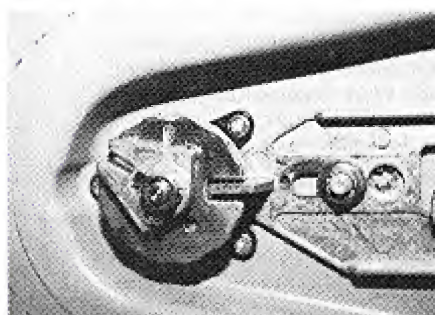


5. Stationary fence in the screw slot.

Changing the combination on this type of safe is easy to do. There are many methods. The first requires that the dial be removed and repositioned in one of three positions. This will change the sequence, not the true numbers. If the original combination was 0-50-25, by moving the square spindle 1/4 turn, the new combination would be 25-75-50. All you are doing is adding 25 numbers to the original combination.

The more accepted way is to take the nut off the back of the threaded part of the spindles, remove the perforated hook, and reposition it. This will change the first two numbers, but the drive wheel number will be the same, unless you reposition the drive wheel.

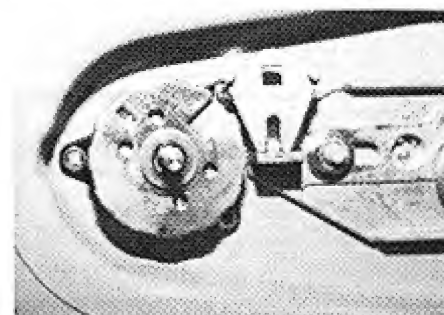
In their newer safes, Sentry has done a refinement. Photograph six shows the new wheel pack. It has a strange shaped cam on the back of the wheel pack. There is a slot in this cam. This long slot is the same as the small slot on the traditional drive wheel. This slot accepts the shipping screw which keeps



6. New style quick change cam and wheel change assembly.

the drive wheel from turning until the shipping screw is removed.

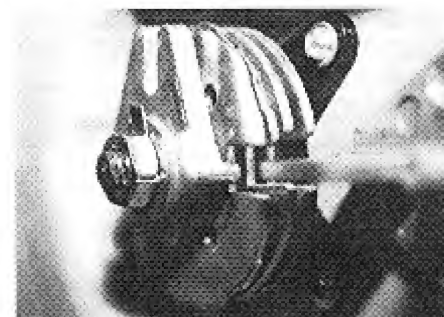
The true improvement is that this wheel pack takes two seconds to change the combination, without any tools (once the back cover is removed). In photograph seven the drive wheel has been removed to show the holes in the drive cam. To change the combination, one does not have to remove this cam plate. Note that there are two protruding pins on either side of the cam plate



7. Cam removed to show drive wheel holes, which is temporarily perched on the stationary fence.

To change the combination, all you do is push in the entire wheel pack and rotate the dial, or cam assembly, until it pops into a new appropriate position. There are actually five positions which will work, although the drive wheel has only four hole cutout positions. The fifth position is achieved, as shown in photograph eight when one of the pins is put into the drive gate.

I do not know if this is proper, but it



8. Side view, wheel pack has been pushed in and cam rotated 1/5th then right. One of the legs is in top opening of drive wheel gate. works. The two wheels and drive wheel are part of a three-legged base which can be called a unit-body construction. The three screws can be seen in previous pictures.

The drive wheel and two combination wheels are assembled and held together. There is no easy way or reason to disassemble this unit. Once the wheels are pushed in and the cam moved, the new combination must be determined by sight reading and dialing. Open and prosper! §

Electronics By Rofu

"The company manufactures a variety of products, all of which are easy to install and can be connected with nearly any type of access control system."

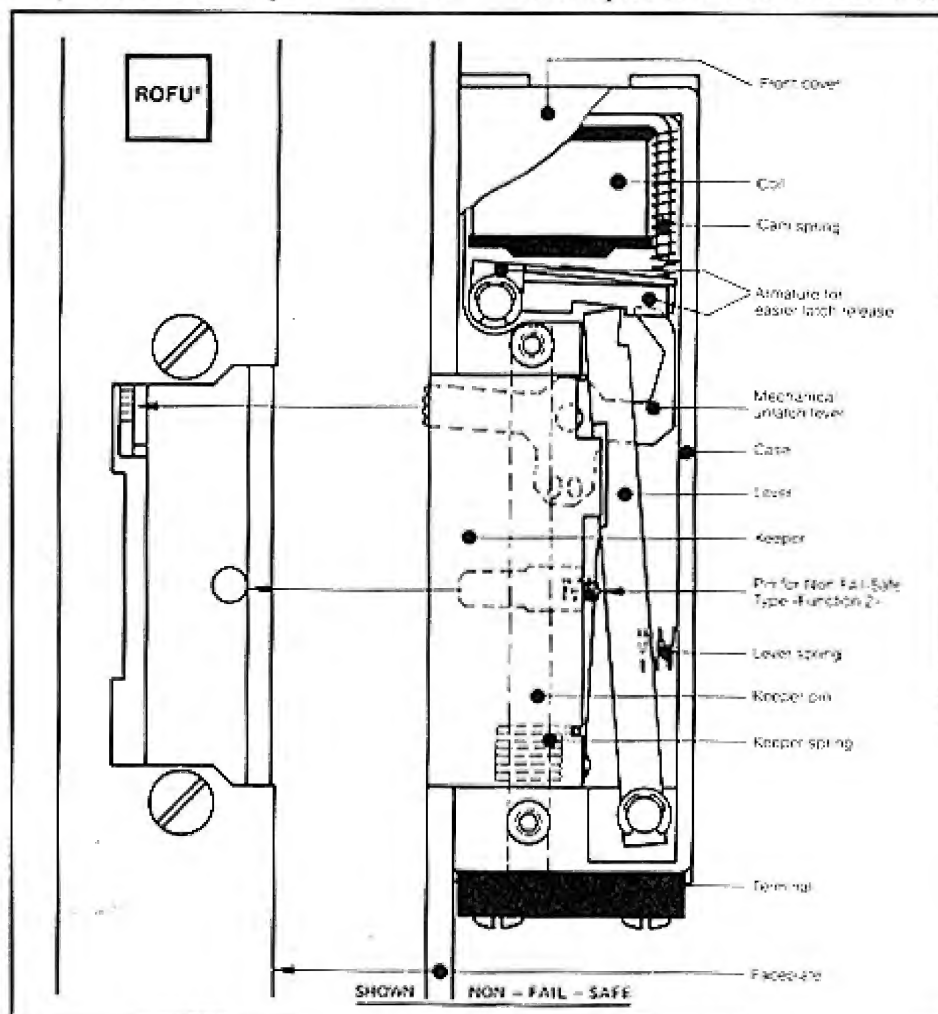
Rofu International Corporation is an international designer, manufacturer and distributor of electric strikes, electromagnetic locking devices, access control systems, key and exit switches as well as related hardware and accessories. All products are easy to install and can be connected with nearly any type of access control system.

Electric strikes are offered in a wide variety of models, operating voltages, finishes and technical characteristics to apply to most any application. Rofu electric strikes can be installed in wood, aluminum and hollow metal jambs and are produced with tamper-resistant and

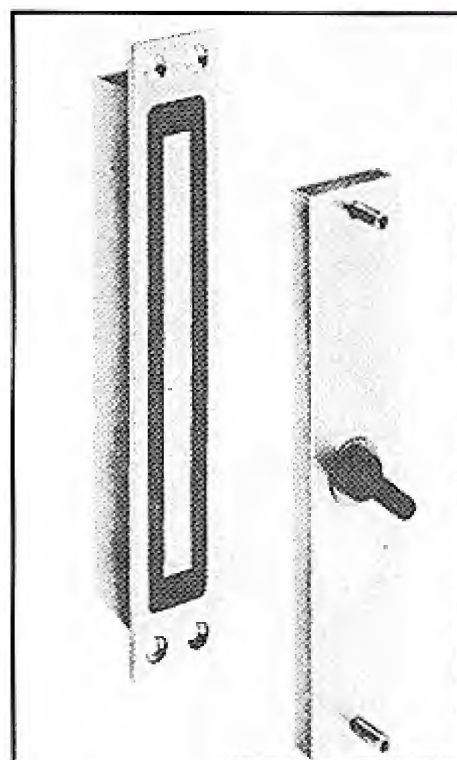
corrosion-resistant metals. Other features include UL Listing, a limited 36 month warranty and temperature resistance of 165 degrees F to -20 degrees F (80 degrees C to -30 degrees C).

The Rofu electromagnetic lock line is well suited for high traffic doors, with no bars, bolts, safety catches or other moving parts that can stick or bind to prevent exit. They provide maximum security for securing and releasing emergency exit doors with no back pressure problem.

The magnetic locks are fail-safe. The door is unlocked when the power is interrupted and there is no residual



The Rofu electric strike.



Model 8000 lock for sliding doors.

magnetism. They operate silently without annoying buzz or hum with a holding force of up to 1500 lbs. maximum for the 8011 series and up to 3000 lbs. maximum for the 8022 series.

Installation is simple; a wide variety of accessories is available to allow installation on most any door jamb regardless of wood, metal, aluminum or glass material combinations. The Rofu electromagnetic lock can be installed in conjunction with any type of access control or security system.

The technical staff of Rofu International will also provide installation drawings and tailor-made specification for any type of application. Turn-around time for product submitted for inspection or repair to their Newbury Park, CA, facility is two working days.

For more information contact: Rofu International Corp., 3725 Old Conejo Rd., Newbury Park, CA 91320, (800) 255-ROFU, (805)499-0316. §

The Lighter Side

Conventional Behavior



by Sara Probasco

Every year, about this time, we close shop for four or five days and go to the state locksmith convention. Don calls it our vacation. I call it a busman's holiday.

The first order of business is usually deciding what clothes to carry.

"We're only taking one bag, this time," Don announced at breakfast last year.

I finished my English muffin and marmalade without looking up. He was always saying things like that at breakfast. I figured it would pass.

"I mean it," he continued. "There's no reason why I should get a hernia carrying a whole bunch of junk for a few days of meetings and a trade show. We're going to streamline our operation, this year."

"Fine by me," I replied, returning my attention to the morning newspaper.

When the week of the convention arrived, I conformed to Don's edict by carefully consolidating my convention wardrobe to one mix-and-match ensemble, a dinner dress, and some costume effects for a masquerade party. Of course, there were the usual night clothes, lingerie, make-up, and the like, two pairs of shoes, and a spare handbag. My garments filled slightly more than half of our large suitcase. Not bad, for a four-day trip, I thought.

"Where do you expect me to put my

stuff?" Don pouted. "You haven't left me much space, you know"

"Well, you can always take your hanger-bag, if you like," I suggested. "If you do, I'll put my dresses in it, too, and make a little more room in the suitcase. I'd really like to take my hot rollers, in case my hair needs some help over the weekend."

"Now, don't start taking a bunch of junk. You know what we decided."

"I know, I know. One suitcase." I got the hanger bag out of the storage closet and laid it across the bed. "And a hanger bag," I added, smiling.

Don's hanger bag is not one of those light-weight zipper bags from a clothier's shop, designed to hold a single garment. This bag has at least a dozen compartments of various sizes and folds over in the middle, with a



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handle and a shoulder strap on the back. You know the kind.

Don hesitated.

"Well," he finally said, "I guess it wouldn't hurt to take it. Besides, I need some place to put those boxes of key blanks Chuck wants me to bring. And I could take my flat-rate manual to show Dennis."

I reached for my hot rollers and lighted make-up mirror, nestling them into the space previously reserved for Don's clothes. "There, that ought to do it," I said. Then another thought grabbed me. "Oh, I forgot the coffee pot." I rushed down the hall with Don close on my heels.

"Coffee pot?" he asked, pushing me aside as he blocked the doorway to the kitchen. "They have a restaurant at the hotel. What do you need with a coffee pot?"

"You know I always take it on long trips. I like to have a cup before I get dressed, in the morning." Wriggling past him, I gathered an armload of coffee-related items and started back up the hall. "The pot won't take much room. It's the can of coffee, and the filters, and the mugs I'll have trouble fitting in. Not to mention the sugar and cream."

Don followed me back to the bedroom, his pleading arms outstretched, a slight tremor in his voice. "Come on, now, Sara!"

"Never mind. I think I can make room here, between the steam iron and the blender."

"Between the what?"

"Now, Don you're sputtering again. You know if you're going to have your liquid protein breakfast, we have to take the blender. You say it tastes like chalk, when I mix it in a glass, and then you're grumpy all day. The only problem is, I'll have to do something else with my shoes, if I put all that in here."

Grumbling unintelligibly into his hanging bag, Don tried to ignore me as he turned his attention to fitting everything neatly into various pockets and compartments. Finally, he reemerged and asked, "Well, is everything ready?"

"I think so," I replied, scooting from sight the weekend bag I had filled with the overflow of electric appliances.

"OK, then. Bring your stuff, and I'll start packing the trunk," he said.

Packing the trunk is one of Don's specialties. He can sandwich more into an ordinary car trunk than most people can squeeze into a van. I think part of the secret lies in his initial approach to

the situation. Lining everything up on the driveway beside the vehicle, he visually sizes up the situation. Then he begins tucking the smallest things around the spare tire, gradually moving forward with his placement until the inside of the trunk resembles a custom-outfitted cargo vessel.

By the time I arrived on the scene with my bags, he was already well into the process.

"When did you decide to take that?" He pointed to my make-up case, frowning.

"I always carry that," I replied defensively. "It's my make-up." While he was thinking about that, I concealed the weekendender between two boxes of key blanks.

"But you weren't supposed to carry it this time. We're economizing on space, remember?"

I gazed into the trunk and down the driveway at the hanging bag, the cartons of locksmith tradables, the boxes of keys for Chuck, the books to show Dennis, the coat in case it turned cold, the umbrella in case it rained, the 35mm camera in its carrying case, complete with flash attachment, telephoto lens, and extra film, the Polaroid camera, in case the 35mm misfired, the extra pair of walking shoes pecking from behind the tire, and the Batman cape for the costume party.

"This is economizing?" I asked. "Is there anything we've missed?"

Don stopped to think. "Oh," he replied, "did you get my pillow?"

"You aren't serious!"

"You know I get a crick in my neck, sleeping on those fat hotel pillows. If I'm going to get a good night's sleep, I have to have my own, skinny pillow."

Slamming the car trunk closed, I heaved my suitcase onto it and reached to open the latches.

"What are you doing?" Don rushed to grab the exploding contents, as the lid sprung open. "Have you lost your mind?"

"I'll have to re-pack if we're carrying pillows," I said, pulling the protein powder and can of coffee from beneath some blouses and setting them aside. They have to go into the weekendender, somehow. "I'm not about to carry pillows through the lobby of a luxury hotel. The last time we did that, we looked like a band of Gypsies. Not only that, but when we left, the manager thought we were trying to steal his pillows."

"Nonsense. You were just super-

Continued on page 83

Locknetics Security Engineering

"The patent pending shear lock design engages locking tabs, secured to the magnet with locking grooves in the armature."

by George R. Nortonen

Locknetics Security Engineering has patents pending on a shear lock design which is smaller, stronger and easier to install than earlier generations of shear locks. The 280 Series mortise design electromagnetic shear lock was introduced in mid 1990 and thousands of units have already been successfully installed, many in retrofit applications.

Why recommend and install the 280 Series Shear Lock? All mortise shear locks offer the advantage of a totally concealed locking mechanism, which provides superior security and appearance. However, original shear locks required precise tolerances, not always practical in everyday installation.

With holding forces tested to 2700 lbs., the Locknetics 280 Series provides significantly greater force than any other shear lock, which provides easy engagement of magnet and armature. The armature literally "jumps" to the magnet.

The patent pending shear lock design engages locking tabs, secured to the magnet, with locking grooves in the armature. While the strength of this design is a major advantage, the flexibility in tolerance is even more important. This design allows for normal door and frame movement, assuming a good quality door and frame are used.

The compact size of the magnet fits into header construction with minimum preparation. It easily fits aluminum store front tube extrusions. Magnet dimensions = 5-3/8" L x 1-1/2" H x 1-1/4" W. Magnet with tabs = 8-9/16" x 1-1/2" x 1-1/4". It is ideal for hollow metal doors and frames, and herculite doors as well.

Universal mounting armature brackets are provided which can be used for flat surface or inverted top rail mounting. One kit fits the majority of applications. An optional TRD (top rail) kit is available when armature

adjustment is required from the edge of the door due to flush ceiling conditions. Or a BRD (bottom rail) kit can be used when top rail mounting is not practical.

Adjustable time delay and a door monitoring switch are furnished standard to positively insure proper sequencing of door relocking. A built in voltage spike suppressor is also standard. Voltage is field selectable, 12 VDC or 24VDC. An optional rectifier is available to accommodate 12VAC or 24VAC. Current draw is .9 amps @ 12 volts, .45 amps at 24 volts. These electromagnetic shear locks are backed by a five year limited warranty, and are UL and BS&A listed.

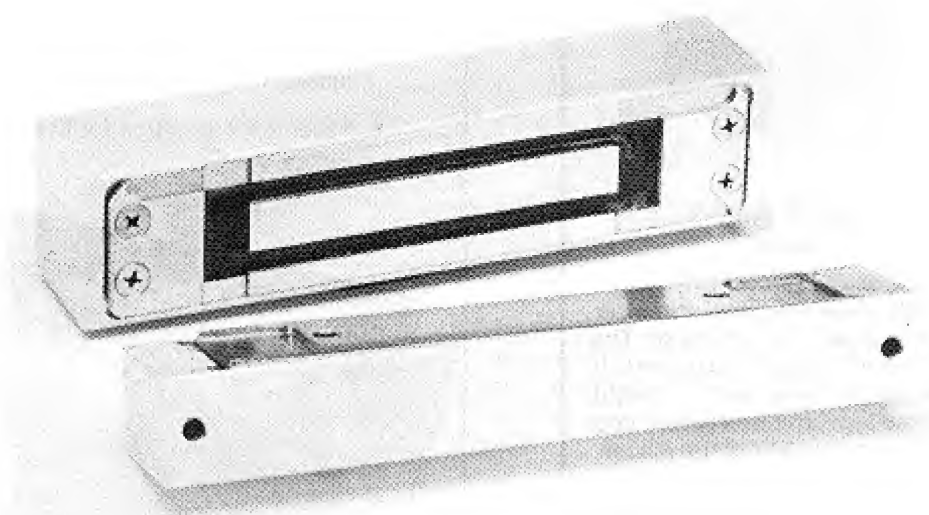
"With significantly greater force than any other shear lock, the armature literally 'jumps' to the magnet."

The new 290 Series surface shear lock is a natural extension of the successful 280 Series mortise shear lock. Like the original 280 Series, the 290 Series offers 2700 lbs. of holding force for high security. And like the 280 Series, the 290 models offer an aesthetically appealing product whose unique surface design is ideal for retrofit application.

The 290 Series offers maximum versatility in application: 290, surface mount, outswinging door, low profile. 290TJ, surface mount, inswinging door, (no bracket needed). 290SC, semi-concealed, magnet mortised into frame; armature surface mounted. HDB, Herculite door bracket available with all models.

Locknetics is a worldwide leader in electronic security locking and door control systems, offering complete manufacturing, technical and marketing services.

For more information contact: Locknetics Security Engineering, P.O. Box 9337, Forestville, CT 06010, (203) 584-9158. §



The 290 Series Shear lock.

Beginner's Corner

Obtaining Your First Jobs



by Eugene Gentry

One of the first things new locksmiths ask when they get ready to set up shop is: "Where can I get jobs?" To begin with, while you were attending locksmith training, you should have been drumming up business. This is done by telling all your friends, neighbors, relatives and acquaintances that you are studying to be a locksmith, and would like to have their business. Tell them what type of lock work you can do now and what you will be able to do in the future. Ask these people if they have any old or broken locks that you can practice on.

You would be surprised at the number and different types of locks that you get. One friend gave me a number of school combination locks without the combinations, so I worked on them, got the combinations, and sold all at a garage sale. Other locks were reconditioned, kept for parts, or returned to the owners. These same people I contacted while training have called time and again now that they know I am qualified for all types of jobs.

Unless you buy a locksmith shop that is already established, don't quit your present job and expect to make a living as a full time locksmith. It takes time to get a business started.

An illustration is a friend whom I will call Joe. He was a mobile handy man, and made a good living doing all types of home maintenance. He became interested in locksmithing, and went to school for training. After graduating he was still doing handy work with locksmithing on the side, and after about a year, he was doing locksmithing full time. He then trained under an auto lock repair specialist, and now is ready to do all phases of locksmith work.

If you are going into business full

time, one of the first things to think about is advertising. Take out an ad in the yellow pages, one that attracts the attention of the reader. Check out the ads that your competitors are running. Also have ready access to a telephone, either cellular or someone who will answer at home or in the shop.

As for myself, I started out in a small way by taking out an ad in a local weekly paper advertising deadbolt installations, and door and lock repair. Along with the deadbolt installations, I received calls for lock changes, lock repair and openings. When the ad ran out, the calls tapered off, so that showed me that advertising like this has to run continually until one is established.

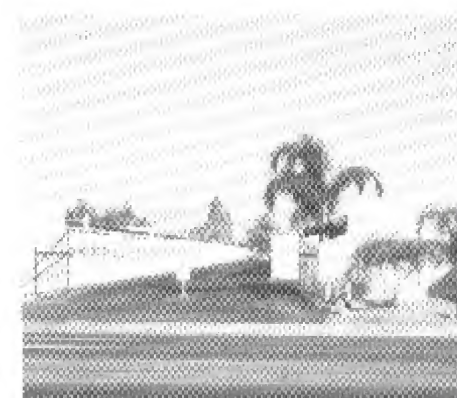
I firmly believe that no locksmith should undercharge just to get the business. Surprisingly, undercharging does the opposite because people think you are a fly-by-night operation. Before I set my prices, I checked with local locksmiths to see what they were charging, and checked the national price list average in the trade magazines. Now, *The National Locksmith* magazine has a Locksmith Flat Rate Manual available. It will help you price your services to ensure you make the right amount of profit you need to survive.

In my spare time, I was also making calls on any business I thought might use a locksmith. The first calls were to new and used car lots. The managers listened to my pitch, and took the business card. One dealer summed up what I think all the dealers had on their minds. This fellow laughed in my face and said, "If I can't open a car, make keys or repair an auto lock, I'd better get out of the business." And he was right. After handing my card to 20 or 25 used car dealers, to this day not one of them has called me.

My brother, who sold Auto Lite spark plugs to the retail stores, gave me a good sales tip. I had asked how he could sell spark plugs when there was so much competition. He said, "I make friends with them." This is a philosophy

that I try to use when calling on new business prospects.

One type of business that I have had good luck with is the mini storage facility. (See photograph 1.) The managers rent the storage units, then sell the tenants an Abus Diskus 24 round padlock. As you know this is a very good and tough lock that cannot be cut as there is no room to apply the cutter. However, these locks can be removed by skillful locksmiths. People lose their keys, and the managers have no other way to get the storage units open.



1. Mini storages offer lock jobs.

Some of the mini storages have their own way of opening locks. One manager told me that he burns them off with a torch, another said he cuts them off, and when he couldn't cut them, he would cut his own latch, and charge the people to replace the latch.

Probably the best work comes from apartment house owners and managers, and management companies who take care of rental property. I found that the big, fancy, expensive apartments (see photograph 2) usually have a maintenance crew that takes care of the local work. The units are all masterkeyed, and they keep a large supply of deadbolts already masterkeyed for any lock changes. They usually have a key machine and charge tenants for extra keys.

At the other end of the scale are the very inexpensive apartments which do not need a locksmith because the locks



2. Luxury apartment generally have their own maintenance crew.

are broken off, and the tenants use a knife stuck in the edge of the door to keep it secure.

But the middle and lower class apartment units are always having trouble. (See photograph 3.) Even though the units are masterkeyed, tenants will take off the deadbolts, and put on their own, or they will damage the locks or break off keys.

I had stopped at one place, about an 80 unit apartment building, to give them my card. The owner had just purchased the place and he put me right to work. I had to pick open ten units that were vacant, then install deadbolts which someone else had masterkeyed.

After that was finished, he handed me a dozen deadbolts to masterkey for



3. Low and middle income apartments have an abundance of lock problems.

him to use as spares. The fee for that job was worth the stop, and he has called me several times since then to work at another larger apartment building that he owns.

A run-down 60 unit place called in the afternoon after I had left my card that morning. The manager wanted an apartment opened and a key made. He wanted me to bill the management company and signed an authorization slip. After doing more lock work, I had trouble getting the money. It took about two months before I could collect it. I would suggest being careful if someone wants you to bill for a job unless you know them.

There is one area where I was able to pick up a little extra change. I had taken

a course in safe combination manipulation and was interested in finding safes to practice on. Just by telling acquaintances that I was working on safes, brought in three jobs. A friend's antique safe to open (with drawers inside needing keys), a homeowner's safe to open from a neighbor and another small safe from a locksmith to open and practice with. Keeping my mouth in gear also brought a combination change job from an acquaintance.

I ran a small ad for safes wanted with no combination and bought five with no combinations on the safes. I opened and cleaned them up and sold all of them. One fellow wanted to sell me a monster two door safe that had been used to store furs, but it looked like it weighed about two tons and even though he only wanted \$300 for it, I had no way to move it and no place to put it.

These are some of the ways to get new business clients, and you may have some more ideas, but the surest ways are a lot of leg work, a lot of talking and passing out business cards, and of course, advertising. The advertising has to run continually and has to attract the attention of people who need your services. §

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Letters

Continued from page 8

In the October issue under "Letters" I was surprised to read the incapability of picking the U-Change Lock Cylinder.

I was called out one night to a store at a local mall, after the manager had tried to change the combination on one of these cylinders in a hurry, I believe. When I arrived, I found that none of the keys that the manager handed me would enter the keyway.

To make a long story short, I used one of the change-tools that I had on me and a rake pick. I then inserted a change tool into the slot as usual and started to raise the first pin with the pick and apply light pressure on the change-tool. When the pin was up in the proper position, the change-tool almost walked in on its own. Next number two and so on. It took me about 30 seconds to do the job. Once the change tool is fully inserted, any of the U-Change keys will enter and turn after the removal of the change tool.

Hope that this will help the tradesmen that favor U-Change Cylinders.

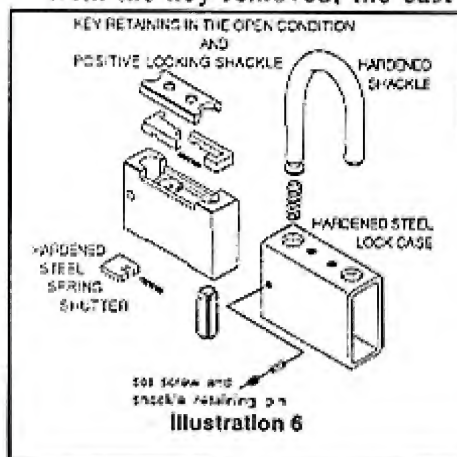
Heinz Frick
Florida

Mul-T-Lock

Continued from page 27

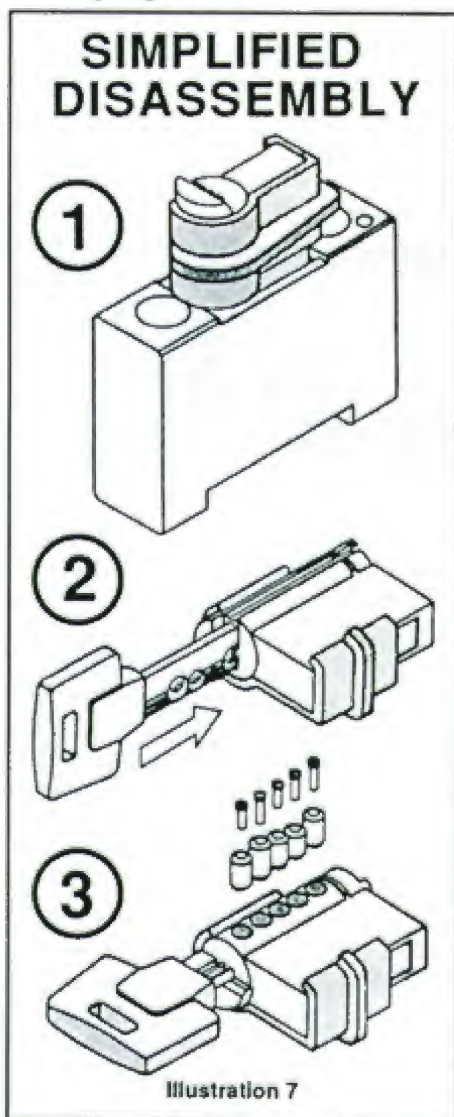
not be easier. By removing a small set screw in the body of the padlock, shown in illustration six, the shackle retaining pin can be removed. After opening the padlock with the appropriate key, the shackle can then be removed from the lock body. A shackle spring ejects the shackle automatically when the key is operated. Though the Mul-T-Lock padlock is "key retaining" in the open condition, removal of the shackle will allow the key to be turned back to the key pull position and removed.

With the key removed, the cast



metal lock body will slide out of the hardened steel armor which forms the lock case. Be careful removing the lock body, as the hardened steel spring shutter, which protects the keyway, is only held in place by the lock case.

Once disassembled from the lock case, the lock cylinder is only held in place by friction. Slide the cylinder out the bottom of the lock body, about half an inch, as you see in illustration seven. This will allow you to install the "cylinder catch." This plastic gadget is about as handy as the lock is simple to service. The cylinder is not a cylinder at all. It is actually a plug and bible assembly. Without the "cylinder catch," you would have a situation very much like disassembling the Chicago file cabinet plunger locks.

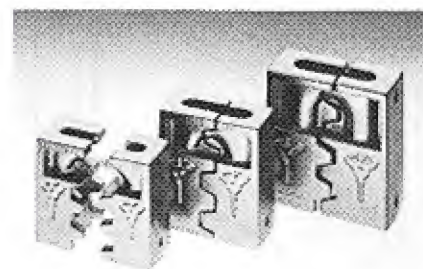


The lock is the picture of simplicity. With the catch in place, insert the working key and rotate the plug 90 degrees to find the combining pins. The top pins (drivers) do not need to be removed to service the lock.

To assemble the padlock, simply reverse the steps above. Be careful to

check your work before returning the plug to the key pull position. Turn the key and remove it from the cylinder. Assemble the cylinder into the lock body by pushing it from the cylinder catch. Assemble the lock body into the lock case and replace the shackle, using the key to retract the locking dogs. Insert the shackle retainer and set screw to complete the job. Recombining the Mul-T-Lock is about as easy as any padlock I've worked on. With a little practice, it should take only a few minutes at most.

Hardened body padlocks by Mul-T-Lock are available in sizes to meet almost any need. Weldable cast iron hasps, shown in photograph eight, completely cover and protect the lock from cutters and other methods of attack. They are unique in the marketplace. These are extremely strong, well engineered locks and accessories. I was impressed with the size and strength of the padlocks I saw. The cylinders worked smoothly and seemed very durable.



8. Mul-T-Lock's hardened body padlocks feature weldable cast iron hasps.

For more information on the locks, or on how you can become a Mul-T-Lock dealer, contact: Mul-T-Lock USA Inc., 300-1 Route 17 South, Suite A, Lodi, New Jersey 07644, (800) 562-3511. §

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fellow who did it was right on the money!)

In photograph 10, Dave Wells is holding one of the wheels out of the Kromer lock. Large wheels, them Kromers. And sticking through the change-key hub is the change key. Pretty stout looking wheels. A pretty stout looking safe.

Well, that about wraps up this month's tour of Germany. Our thanks to Carlos Cintron and Dave Wells for being such hospitable tour guides. Who knows where that dynamic duo will take us next time. See you next month.
§

On the Lighter Side

Continued from page 72

sensitive."

"That's easy for you to say. You're not the one they strip-searched before they'd give back the VISA card at check-out."

Don didn't comment on the extra weekend suitcase, as he finished packing the trunk, and he didn't mention the way the back bumper scraped the pavement, leaving a trail of sparks as we sped down the highway toward our destination. What's more, he didn't even say "Aha!" about the courtesy coffee pot with real coffee and china mugs which we found in our room at the convention hotel. So, I didn't point out the additional set of pillows on the shelf in the closet...soft, skinny ones, just like the one he had brought from home. Neither of us has mentioned these things since.

However, in light of the hotel's added amenities, last year, I've given serious consideration to going "cold turkey" at this year's convention. Maybe we really could get by with only one suitcase.

And my make-up kit, of course.

And Don's hanger bag.

And... §



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